

**U.S. Department of the Interior  
Bureau of Land Management  
Royal Gorge Field Office  
3028 E. Main Street  
Canon City, CO 81212**

## **ENVIRONMENTAL ASSESSMENT**

NUMBER: DOI-BLM-CO-200-2011-0057 EA

CASEFILE/PROJECT NUMBER (optional):

PROJECT NAME: Minerals –November 2011 Oil & Gas Lease Sale

PLANNING UNIT: Northeast and Royal Gorge Subunits 4, 8 and 10

LEGAL DESCRIPTION: Multiple (see Attachment A)

APPLICANT: BLM

INTRODUCTION/BACKGROUND:

It is the policy of the Bureau of Land Management (BLM) as derived from various laws, including the Mineral Leasing Act of 1920 and the Federal Land Policy and Management Act of 1976, to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs.

The BLM Colorado State Office conducts a quarterly competitive lease sale to sell available oil and gas lease parcels. A Notice of Competitive Lease Sale, which lists lease parcels to be offered at the auction, is published by the BLM State Office at least 90 days before the auction is held. Lease stipulations applicable to each parcel are specified in the Sale Notice. The decision as to which public lands and minerals are open for leasing and what leasing stipulations may be necessary, based on information available at the time, is made during the land use planning process. Surface management of non-BLM administered lands overlaying federal minerals is determined by the BLM in consultation with the appropriate surface management agency or the private surface owner.

In the process of preparing a lease sale the BLM State Office sends a draft parcel list to each field office where the parcels are located. Field Office staff then review the legal descriptions of the parcels to determine if they are in areas open to leasing; if appropriate stipulations have been included; if new information has become available which might change any analysis conducted during the planning process; if appropriate consultations have been conducted, and if there are special resource conditions of which potential bidders should be made aware. Once the draft parcel review is completed and returned to the State Office, a list of available lease parcels and

stipulations is made available to the public through a Notice of Competitive Lease Sale (NCLS). Lease sale notices are posted on the Colorado BLM website ([BLM Colorado | Oil and Gas | Leasing](#)). On rare occasions, additional information obtained after the publication of the NCLS may result in withdrawal of certain parcels prior to the day of the lease sale.

The following Environmental Assessment (EA) documents the review of the parcels offered in the November 2011 Competitive Oil and Gas Lease Sale that is under the administration of the Royal Gorge Field Office. It serves to verify conformance with the approved land use plan and provides the rationale for deferring or dropping parcels from a lease sale as well as providing rationale for attaching additional lease stipulations to specific parcels.

The BLM Royal Gorge Field Office administers all public land in Colorado east of the continental divide. This includes approximately 680,000 surface acres and 2.9 million acres of subsurface mineral estate.

### ISSUES AND CONCERNS:

#### Summary of Public Concerns

CEQ regulations requires BLM to make a diligent effort to engage the public in the NEPA process and to make sure all interested and affected parties are aware of the proposed action (40 CFR 1506.6(a)). A thirty day public review and comment period was held from June 8<sup>th</sup> to July 8<sup>th</sup>, 2011. The environmental assessment was posted in the public area of the Royal Gorge Field Office and on the BLM RGFO and Colorado State Office websites. Comments were received via email, fax and hardcopy mail service. A total of 160 comments were received with 159 of those comments referencing the parcels in Park County.

Public comments are addressed below or in each of the relevant resource sections of the EA and if warranted considered in modifying the proposed action. Some issues raised by the public are related to development stage oil and gas activity while others are commonly addressed during the lease stage. A summary of public comments to the draft EA is as follows:

- Concerns with hydraulic fracturing (fracking) and contamination of water wells and surface ground water, as well as general hazardous material generation. (see following discussion on hydraulic fracturing)
- General impacts from development stage activities including, impacts to soil, air, vegetation and riparian areas. Should not be left to APD or development stage analysis (see concerns with process below).
- Impacts to wildlife and Threatened and Endangered (T&E) species, critical winter range and fragmentation of habitat (see respective resource sections).
- BLM fails to properly analyze direct, indirect and cumulative impacts to Wildlife and T&E species and those few stipulations applied are inadequate (see respective resource sections) .
- Impacts to cultural resources.

- Impacts to the visual landscape.
- Impacts to recreational opportunities such as fishing and hunting.
- Concerns with leasing occurring in or near Colorado Natural Heritage Program (CNAP) natural areas or their Potential Conservation Areas (PCAs) and Spanish Peaks Wilderness Area and CNAP East Spanish Peaks Designated Natural Area. (see below)
- Leasing within the Spinney Mountain and Badger Basin State wildlife Areas. (see below)
- Socio-economic impacts to property owners within the Redhill subdivision of South Park, who have small 2-3 acre lots (addressed in proposed action).
- General impacts to roads and increased noise from oil and gas activities.
- Request that any parcel within one mile of the high water mark of Spinney Mountain Reservoir, South Platte River and the Homestake inflow channel be withdrawn from the lease to protect municipal water sources (addressed in proposed action).
- Request that although a No Surface Occupancy stipulation has been applied to Empire Reservoir and its Rights-of-Way, the Bijou Irrigation District would request clear communication between any developer and the State Engineer's Office, Dam Safety Branch to approve any drilling activities. This to insure the safety and integrity of the dam.

#### Concerns with Process:

- The NEPA analysis fails to address the connected action issues of development stage activities and impacts of infrastructure. In addition, relies too much on development stage analysis that, by that time, is too rigid to make meaningful adjustments.

The act of leasing implies potential future development, however leasing in any given location does not necessarily translate to development. The numerous number of lease parcels addressed in any lease plays host to many and varied environments and environmental circumstances. To address all the potential impacts that only might occur at the development stage on these parcels, is beyond the scope of this analysis. It is the intent of this analysis to take a broad look at impacts to known resources and apply stipulations that the operator will need to comply with prior to leasing. If a parcel is leased, site specific NEPA analysis occurs at the application stage to disclose impacts at that specific location and identify mitigations that are applied in conditions of approval.

- Parcels should be deferred until site visits are made to properly analyze impacts per IM 2010-117.

A site visit was performed on the parcels in Park County as there are no producing oil and gas wells within the county to date. No site visits were made to Huerfano County, Otero County, Bent County, Phillips County, Sedgwick County, Morgan County, or

Weld County parcels. BLM specialists were adequately familiar with the few surface acres managed by the BLM within these county parcels to review them using aerial photos, satellite imagery, and topographic maps. The majority of surface acres within the parcels of these counties are privately owned. Surface owners are not obligated at the leasing stage to grant access to their property. The parcels were reviewed by using aerial photos, satellite imagery, and topographic maps.

- The BLM fails to analyze a range of reasonable alternatives. Does not include alternatives that would add protections to T&E species.

This analysis addresses two alternatives that are essentially, to lease or not to lease, options. The leasing alternative is created from the entire list of nominated parcels as provided to the Royal Gorge Field Office prior to staff analysis. The parcels are analyzed by the field office resource staff using a combination of GIS and geospatial techniques, personal and outside agency knowledge of an area and site visits when necessary. The leasing or proposed action option is the collection of parcels with additionally applied stipulations or deferrals that remained after staff analysis. Subsequent public comment provides yet additional input that can further alter the proposed action. The option to create yet a new alternative from changes made to the proposed action through public comment is not chosen since those alterations whether they be in the form of additional stipulations or deferrals can easily be made to the proposed action. Those applied stipulations include all available protections for T&E species.

- NEPA analysis should include a scientifically backed analysis of the effectiveness of its mitigation measures.

The NEPA process applies no mitigation measures at the leasing stage. Stipulations are applied to each lease parcel as a set of conditions that the leasee will comply with that help alleviate potential impacts to known resources. Stipulations are developed and written during the resource management planning effort or a subsequent amendment to the plan and are based on the best available science for a resource and BLMs best management practices.

- Royal Gorge Field Office RMP is inadequate (after disclosure of those attributes that brought about the land tenure adjustment in South Park, signed in 2009) to determine whether parcels in this region should be made available to lease.

Although the South Park Land Tenure Adjustment did not affect leasing in Park County, it did reexamine resource values to address the disposition of BLM administered surface, as prescribed by the RMP, relative to exchange, disposal or retention. The resulting effect on the leasing process was that new important resource values were identified

across South Park and lease parcels were brought under the protection of additional leasing stipulations.

- Those parcels in State wildlife Areas should be deferred. Leasing within the Spinney Mountain and Badger Basin State wildlife Areas should be deferred.  
All or part of parcels 5916, 5917, 5975, 5976 and 5978 are in the vicinity of, or in some cases are within Spinney Mountain Reservoir, Spinney Mountain State Park, Spinney Mountain State Wildlife Area and the South Platte River in Park County. However, under federal regulation only specific locations and jurisdictions are precluded from oil and gas leasing (43 CFR 3100.0-3 (a)(2)). State Parks and State Wildlife Areas are not necessarily excluded from leasing. However, in this particular case, all or part of parcels 5916, 5917, 5975, 5976 have been deferred in the current proposed action for other resource issues.
- Leasing the parcels in Park County conflicts with county zoning authority (Title 29, Article 20, CRS The provisions of the local Government Land Use Control Enabling Act of 1974) Pursuing the no action alternative. (Thomas Eisenman)

As a general rule, federally owned property is exempt from the enforcement of local zoning ordinances under principles of federal sovereign immunity. The Property Clause of the U.S. Constitution, Art. IV, Sec. 3, cl. 2 gives Congress plenary authority over federally owned lands and minerals, and federal agencies must manage such lands as directed by Congress in statutes such as FLPMA and the Mineral Leasing Act. Consequently, where Congress has enacted legislation directing management of federal public lands and resources, and when federal action conflicts with local land use regulations, federal regulation preempts local regulation under the Supremacy Clause of the U.S. Constitution, Art. VI, cl. 2.

Under FLPMA, the Mineral Leasing Act, and other federal laws, mineral exploration and development (including oil and gas) are important purposes of federal lands and resources. The leasing of parcels in Park County is authorized by, and is fully consistent with, FLPMA, the Mineral Leasing Act, and the regulations promulgated thereunder.

- The Secretary has the discretion not to lease 30 USC § 226 (a).

The discretion of leasing by the Secretary is manifest through the BLM field offices and their respective Resource Management Plans, which must in turn, adhere to federal law. Those federal laws include primarily the Mineral Leasing Act of 1920 and the Federal Onshore Oil and Gas Leasing Reform Act of 1987, among others. With each successive management plan, the federal mineral estate, made available for lease, is evaluated to

determine if conditions have changed that would change the availability at any location. Those parcels in the current lease were evaluated by the 1996 Royal Gorge Resource Area Management Plan as being available for lease.

#### Resources Issues Not Discussed in Resource Sections

- Concerns with leasing occurring in or near Colorado Natural Heritage Program (CNAP) natural areas or their Potential Conservation Areas (PCAs) and Spanish Peaks Wilderness Area and CNAP East Spanish Peaks Designated Natural Area.

No parcels in the sale are within a designated wilderness area. Parcel 5994 was checked and it is adjacent to but not in the Spanish Peaks Wilderness Area. The Forest Service, who manages this wilderness area, was notified and brought forward no concerns with leasing parcel 5994. BLM can find no evidence that the East Spanish Peak Designated Natural Area exists in the State of Colorado.

Several lease parcels are located within PCAs; however, the RGFO RMP and the North East RMP contain a suite of stipulations that will protect the elements outlined in each PCA in the event that leased parcels are eventually developed.

#### Concerns with Hydraulic Fracturing (Fracking)

The following is excerpted from the Colorado BLM website:

##### **Fracking on BLM Colorado Well Sites**

###### ***What is it?***

Fracturing (known as “fracking” in the oil and gas industry) is a process that uses high pressure pumps to develop pressure at the bottom of a well to crack the hydrocarbon formation. This aids extraction of oil and gas deposits that might be left behind by conventional oil and gas drilling and pumping technology.

Hydraulic fracturing is a 60-year-old process that is now being used more commonly as a result of advanced technology. About 95 percent of new wells in Colorado are fractured.

###### ***Background***

Wells are often treated during completion to improve the recovery of hydrocarbons by increasing the rate and volume of hydrocarbons moving from the natural oil and gas reservoir into the wellbore. These processes are known as well-stimulation treatments, which create new fluid passageways in the producing formation or remove blockages within existing passageways. They include fracturing, acidizing, and other mechanical and chemical treatments often used in combination. The results from different treatments are additive and complement each other.

This makes it possible to introduce fluids carrying sand, walnut hulls, or other small particles of material into the newly created crevices to keep the fractures open when the pressure is relieved. This process increases the flow rate and volume of reservoir fluids that move from the producing formation into the wellbore. The fracking fluid is typically more than 99 percent water and sand, with small amounts of readily available chemical additives used to control the chemical and mechanical properties of the water and sand mixture.

### ***Colorado fracking concerns***

In Colorado, concerns about the potential effects of hydraulic fracturing on water quality were raised by the public and local officials in the South Park, Denver/Julesburg Basin and Rifle areas. Concerns are centered on the chemical composition of fracturing fluids, the location of drilling in or near underground sources of drinking water, and the potential health impacts resulting from these activities.

To date, no lawsuits related to hydraulic fracturing have been filed regarding BLM Colorado lands.

The State of Colorado, through the Colorado Oil and Gas Conservation Commission (COGCC), establishes prudent regulations to ensure that all resources including groundwater are protected. COGCC regulations establish casing and cementing standards to ensure that gas being produced from 8,000 feet down does not leak into the shallower aquifers. These regulations require wells to be cased with steel pipe and the casing to be surrounded by cement to create a hydraulic seal within the annular space between the wall of the well bore and the steel pipe. In addition, in response to the recent concerns raised about hydraulic fracturing, the COGCC has amended the COGCC regulations to include requirements that address these concerns and will serve to further mitigate any potential impact from hydraulic fracturing.

In Colorado, the majority of fluids used in the fracturing process are recycled and no fluids are sent to wastewater treatment plants, which has caused water quality concerns in the eastern United States. For the small percentage of fluids disposed of, 60 percent goes into deep and closely-regulated waste injection wells, 20 percent evaporates from lined pits and 20 percent is discharged as usable surface water under permits from the Colorado Water Quality Control Commission.

### ***Environmental oversight and safeguards***

To ensure that hydraulic fracturing is conducted in a safe and environmentally sound manner, the BLM approves and regulates all drilling and completion operations, and related surface disturbance on Federal public lands. Operators must submit Applications for Permit to Drill (APDs) to the agency. Prior to approving an APD, a BLM Colorado geologist identifies all potential subsurface formations that will be penetrated by the wellbore. This includes all groundwater aquifers and any zones that would present

potential safety or health risks that may need special protection measures during drilling, or that may require specific protective well construction measures.

Once the geologic analysis is completed, the BLM reviews the company's proposed casing and cementing programs to ensure the well construction design is adequate to protect the surface and subsurface environment, including the potential risks identified by the geologist and all known or anticipated zones with potential risks.

During drilling, the BLM is on location during the casing and cementing of the groundwater-protective surface casing and other critical casing and cementing intervals. Before hydraulic fracturing takes place, all surface casing and some deeper, intermediate zones are required to be cemented from the bottom of the cased hole to the surface. The cemented well is pressure tested to ensure there are no leaks and a cement bond log is run to ensure the cement has bonded to the casing and the formation. If the fracturing of the well is considered to be a "non-routine" fracture for the area, the BLM will always be onsite during those operations as well as when abnormal conditions develop during the drilling or completion of a well.

### Specific Fracking Concerns

#### **Issue #1: Limited space available on small lots (Red Hill Forest SD) in reference to the large amount of water storage tanks, etc., necessary for the fracking process.**

The well pad will need to be large enough to hold the drilling equipment needed to drill the well, and the subsequent equipment needed to complete the well, which include the water tanks, chemical trucks, flowback tanks, and related equipment used for fracking the well. This generally takes from 2 – 4 acres. Before any surface disturbance occurs, an onsite inspection is conducted to discuss the proposal, determine the best location for the well, road and facilities; identify site-specific concerns and potential environmental impacts associated with the proposal; and discuss the conditions of approval or possible environmental Best Management Practices for mitigating these impacts. No drilling operations or related surface disturbing activities may be initiated without an approved APD.

#### **Issue #2: Potential disruption to the "earth boundaries" consequently threatening water aquifers. Specifically: leakage, water depletion, and mixing with gas.**

The fracking process involves pressuring up the formation with a fluid at a pressure high enough to break down and fracture the formation, yet low enough to be within the design of the cement and casings making up the well. In addition, the rock strata above the producing formations provide a natural barrier to vertical migration of fluids. These barriers created the reservoir by forming a trap where fluids could accumulate. There are strong incentives to keep the fractures from encroaching into these natural barriers. Hydraulic fracturing programs are designed for the target formation, using knowledge of in-situ properties and modeling of the formation.

During drilling, the BLM is on location during the casing and cementing of the groundwater-protective surface casing and other critical casing and cementing intervals. Before hydraulic fracturing takes place, all surface casing and some deeper, intermediate zones are required to be cemented from the bottom of the cased hole to the surface. The cemented well is pressure tested

to ensure there are no leaks and a cement bond log is run to ensure the cement has bonded to the casing and the formation.

**Issue #3: The EA fails to consider any additional leasing stipulations – in particular those lease stipulations applicable to horizontal drilling with fracking specifically the rules completed by the COGCC known as the “green completion” rule – COGCC Rule 801.b.**

Operators must get a permit to drill a well from the COGCC for ALL wells drilled in Colorado, whether they will be located on private, state, or federal minerals. It is a totally independent process from getting an APD from the BLM, so they need to follow COGCC rules as well as BLM rules when drilling a well on federal minerals. The Colorado State agencies, including the COGCC, have authorities over water resources that the BLM does not have. BLM is charged with the protection of all usable water zones, including groundwater aquifers. This is accomplished with the drilling and cementing programs designed specifically for each well.

**Issue #4: Pollution related to fracking:**

In Colorado, the majority of fluids used in the fracturing process are recycled, and no fluids are sent to wastewater treatment plants, which has caused water quality concerns in the eastern United States. For the small percentage of fluids disposed of, 60 percent goes into deep and closely-regulated waste injection wells, 20 percent evaporates from lined pits and 20 percent is discharged as usable surface water under permits from the Colorado Water Quality Control Commission.

COGCC Rules 903, 904, and 906 impose updated requirements for pit permitting, lining monitoring, and secondary containment to ensure that fluids in pits do not contaminate soil, groundwater, or surface water. These requirements will help ensure that any flowback of hydraulic fracturing fluids is properly contained.

Starting in 2009, the COGCC Rule 205 requires operators to maintain MSDS sheets for any chemical products brought to a well site for use downhole during drilling completion and workover operations, including fracture stimulation. Operators shall also maintain a chemical inventory by well site for each chemical product used downhole or stored for use downhole during drilling, completion and workover operations, including fracture stimulation, in an amount exceeding 500 pounds during any quarterly reporting period. This allows government officials and medical professionals to investigate and address allegations of chemical contamination associated with hydraulic fracturing, while protecting proprietary information.

COGCC Rule 317B imposes mandatory setbacks and enhanced environmental protections on oil and gas development occurring near sources of public drinking water. These requirements provide an extra layer of protection for our public water supplies and help ensure that these critical resources are not inadvertently contaminated by energy development.

### BLMs PURPOSE AND NEED:

The purpose of offering parcels for competitive oil and gas leasing is to allow private individuals or companies to explore for and develop oil and gas resources for sale on public markets. The sale of oil and gas leases is needed to meet the growing energy needs of the United States public (43 U.S.C. § 1702 (c)). The need for the action is to satisfy the conditions of the Mineral Leasing Act of 1920 as described in 43CFR 3100 and the Federal Land Policy and Management Act of 1976.

Production of oil and gas resources on public lands contributes to decreasing the dependence of the United States on foreign energy sources, which is a BLM policy that complies with the Mining and Minerals Policy Act of 1970. Continued leasing is necessary to maintain options for production as oil and gas companies seek new areas for production or attempt to develop previously inaccessible or uneconomical reserves.

### PUBLIC SCOPING PROCESS:

The EA was posted initially on the BLM Royal Gorge Field Office NEPA log website. Those agencies contacted directly to identify issues included the Colorado Division of Wildlife, The Colorado State Historic Preservation Office and 15 Native American tribes (see Persons and Agencies consulted). This Environmental Assessment will be made available to the public on the National Environmental Policy Act (NEPA) register on the RGFO and Colorado State BLM Office Oil and Gas websites and a hardcopy posted at the Royal Gorge Field Office, Cañon City, Colorado, for a 30-day public review and comment period.

### DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

The Proposed Action is to lease Federal mineral estate from lands reviewed and found suitable for leasing in the Royal Gorge Field Office through the Royal Gorge Resource Management Plan and the Northeast Resource Management Plan (as amended). The current lease contains parcels in Park, Huerfano, Weld, Morgan, Sedgwick, Phillips, Otero and Bent Counties. Those lands proposed for lease total 30,391.87 acres of federal mineral estate and are described in [Attachment C](#). Of those total acres approximately 4,027 are BLM public land. The lands have been grouped into appropriate lease parcels for purposes of offering lands via competitive lease sale as oil and gas leases. Offered lease parcels are grouped according to regulatory requirements as prescribed in the 43 CFR 3100 regulations, setting parameters for acreage limitations, public lands, acquired lands, and excepted acreage. Regulations also set certain lease terms and conditions under which development of the surface of oil and gas leases may occur. Stipulations for other surface protection will be applied where regulatory lease terms and conditions are not adequate to protect those resources. These stipulations are described in the planning documents and will be applied to any of the parcels that are leased. These additional protection needs are attached to any parcels offered for lease in the form of attached stipulations.

If the parcels are not leased at the proposed lease sales, then they will remain available to be leased for a period of up to two years to any qualified lessee at the minimum bid cost. Parcels obtained in this way may be re-parceled by combining or deleting other previously offered lands.

Mineral estate that does not get leased after an initial offering, and is not leased within a two year period, must go through a competitive lease sale process again prior to being leased.

The act of leasing does not authorize any development or use of the surface of lease lands, without further application and approval by the BLM.

Those parcels that are leased may receive future Applications for Permit to Drill (APDs). When those APDs are received, additional site-specific NEPA analysis will be done. Some of the offered leases are sub-surface mineral estate only with surface ownership other than the BLM.

Justification for deferrals The deferral process for nominated parcels was established for the leasing process when legitimate questions or controversy arise over the leasability of a parcel. The deferral process does not necessarily withdraw a parcel from the leasing arena, but merely indicates that further analysis is needed before possibly being reintroduced in a future lease. The following parcels are recommended for deferral in the proposed action for the November lease sale.

Deferrals were initially made on parcels 5976 and 5916 due to the fact that they are located with ¼ mile of the high water mark of Spinney Reservoir, a municipal water source for the City of Aurora. Through the comment process, the City of Aurora requested deferral of parcels that are within one mile of the high water mark. Further analysis of the appropriate distance for deferral of parcels in proximity to Spinney Mountain Reservoir is necessary. Until additional analysis is complete BLM proposes temporary deferment of all or part of parcels 5916, 5917, 5975, 5976 and 5978 that lie within one mile of the high water mark.

Parcel 5980: This parcel is also located within Park County and a portion of the federal mineral estate underlies the Red Hill subdivision, composed largely of 2-3 acre lots. That portion of the parcel has been temporarily deferred until further analysis of this unique situation can be completed.

Parcels 5882, 5883, 5895, 5970 and 5971: These parcels are all situated in Weld County and located within the 8-hour ozone non-attainment area. The 1986 Northeast RMP and the 1991 Oil and Gas EIS did not analyze impacts to air quality concerning the formation of ozone from oil and gas activity. The BLM is currently conducting an emissions inventory of oil and gas activities along with projected future development for the Front Range of Colorado. This analysis will eventually provide the needed data to evaluate impacts from oil and gas activities within the non-attainment zone.

[Attachment A](#) of this document lists all pre EA parcels proposed for lease. [Attachment B](#) parcels are those deferred or with deferred portions and [Attachment C](#) are those parcels determined by this analysis to be available for lease with applied stipulations. Definitions of applied stipulations can be found in [Attachment D](#) and maps of the parcels are found in [Attachment E](#).

#### NO ACTION ALTERNATIVE:

The BLM NEPA Handbook (H-1790-1) states that for Environmental Assessments (EAs) on externally initiated proposed actions, the No Action Alternative generally means that the

proposed action would not take place. In the case of a lease sale, this would mean that an expression of interest to lease (parcel nomination) would be denied or rejected.

The No Action Alternative would withdraw the lease parcels from the November 2011 lease sale. The parcels would remain available for inclusion in future lease sales. Surface management would remain the same and ongoing oil and gas development would continue on surrounding Federal, state, and private and leases.

No mitigation measures would be required as no new oil and gas development would occur on the unleased lands. No rental or royalty payments would be made to the Federal government. It is not expected that demand would decrease. It is likely that continuing demand would be addressed through production elsewhere. Oil and gas development outside the RGFO (including some areas outside of the U.S., which are subject to less stringent environmental regulations), may increase emissions of volatile organic compounds (VOC), oxides of nitrogen (NO<sub>x</sub>), air borne dust (particulate matter; PM), and greenhouse gases (GHGs) during exploration and production operations. In addition, it is anticipated that there would be additional emissions of these air pollutants during transportation of these commodities to U.S. ports.

It is an assumption that the No Action Alternative (no lease option) may result in a slight reduction in domestic production of oil and gas. This would likely result in reduced Federal and state royalty income. Consumption of oil and gas developed from the proposed lease parcels would be expected to produce GHGs. Consumption is driven by a variety of complex interacting factors including energy costs, energy efficiency, availability of other energy sources, economics, demographics, and weather or climate. If the BLM were to forego its leasing decisions and potential development of those minerals, the assumption is that the public's demand for the resource would not be expected to change. Instead, the resource foregone would be replaced by other sources that may include a combination of imports, fuel switching, alternative fuels, and other domestic production.

#### ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR ANALYSIS

An alternative considered but eliminated involved the lease of all nominated parcels as provided in Attachment A, with no deferrals. This alternative was dropped from further consideration because BLM identified the need for temporary deferral on certain parcels in order to allow for further analysis of several issues and/or concerns on these parcels. These parcels included

- All or part of parcels 5916, 5917, 5975, 5976 in Park County, in the vicinity of Spinney Mountain Reservoir, a City of Aurora water source.
- Parcel 5980 in South Park that included numerous 2-3 acre lots of the Red Hill subdivision.
- Parcels 5882, 5883, 5895, 5970 and 5971, all situated in Weld County and located within the 8-hour ozone non-attainment area.

#### PLAN CONFORMANCE REVIEW:

Name of Plan: Royal Gorge Resource Management Plan

Date Approved: May 13, 1996

Decision Number: 4-29, 8-28, 10-27

Decision Language: The BLM administered mineral estate will be open to fluid minerals leasing, exploration and production, subject to the lease terms and applicable lease stipulations.

Name of Plan: Northeast Resource Management Plan

Date Approved: September, 1986 as amended November 1991

Decision Number: Oil and Gas element amendment to the RMP

Decision Language: 672,000 acres of BLM administered mineral estate within the Northeast Planning Area are open to oil and gas leasing and development, subject to the lease terms and (as applicable) lease stipulations.

#### REVIEW OF EXISTING NEPA DOCUMENTS:

Name of Document: Colorado Oil & Gas EIS

Date Approved: 12/06/91

Name of Document: South Park Land Tenure Adjustment – RMP Amendment

Date Approved: 5/18/09

The South Park Land Tenure Adjustment Record of Decision was signed in May of 2009. This plan utilized newly acquired resource information to analyze land tenure adjustments in the South Park subregion of the Royal Gorge Field Office. The new analysis and subsequent land allocation decisions amended the 1996 RMP. The plan primarily increased the amount of BLM administered lands in this area identified for retention in BLM ownership and adjusted the amount of acreage and conditions where BLM administered land had previously been available for exchange. Changes in the land tenure status of BLM administered lands were based on the following:

- Presence of mountain plover habitat.
- Presence of fen and mire wetlands.
- Big-game habitat.
- Public access.
- Parcel size
- Proximity to open space.
- Adjacency to private conservation easements.
- Visual resources.
- Cultural and historic resources.
- Range economics

However, although the plan took these criteria into account into adjusted the land tenure status of these lands, the plan did not authorize any changes to the types of activities or uses allowed on these land. The decisions made in the 1996 RMP regarding the availability and suitability of these lands for oil and gas leasing were not amended by the South Park Land Tenure plan. Therefore, the decisions made in the 1996 RMP regarding oil and gas leasing still remain valid at this time.

Furthermore, the fact that the South Park plan recommended retention of certain parcels based on one or more of the above values does not necessarily preclude their availability for oil and gas leasing. For example, under the South Park Plan, certain parcels may have been reclassified from a disposal status to a retention status due to their value as big-game habitat. However, the 1996 RMP indicated that oil and gas development may be authorized on parcels with value as big-game habitat but provided for additional mitigation and protection through appropriate leasing stipulations, such as season closures, etc. Therefore, merely the fact that the South Park Plan recognized the resource values on certain parcels of BLM administered lands and recommended those parcels for retention does not preclude oil and gas development on these parcels.

Additionally updated information on all resource values, including information on fens, mires and mountain plover habitat and other resources identified in the South Park Land Tenure plan, was used in this analysis and resulted in the application of appropriate lease stipulations. These stipulations for each parcel are included in Appendix A and C and have been determined to be adequate to protect resources on these parcels.

Significant portions public, private and state lands within the South Park area were included in the South Park National Heritage Area through the Omnibus Public Lands Management Act of 2009, Public Law 111-11, March 30, 2009. In general, the Act recognizes the significance of the area's resources and distinctive history. Title VIII, Subtitle A, Section 8003 (e) (2) (3) of the Act describes the South Park National Heritage Area's relationship to other federal agencies and Section 8003 (f) (3) addresses regulatory protections. Specifically:

(2) **CONSULTATION AND COORDINATION.**—The head of any Federal agency planning to conduct activities that may have an impact on the Heritage Area is encouraged to consult and coordinate the activities with the Secretary and the management entity to the maximum extent practicable. And (3) **OTHER FEDERAL AGENCIES.**—Nothing in this section—

(A) modifies, alters, or amends any law or regulation authorizing a Federal agency to manage Federal land under the jurisdiction of the Federal agency;

(B) limits the discretion of a Federal land manager to implement an approved land use plan within the boundaries of the Heritage Area; or

(C) modifies, alters, or amends any authorized use of Federal land under the jurisdiction of a Federal agency. And (f) **PRIVATE PROPERTY AND REGULATORY PROTECTIONS.**—

Nothing in this section—

(3) alters any duly adopted land use regulation, approved land use plan, or other regulatory authority of any Federal, State or local agency, or conveys any land use or other regulatory authority to the management entity;

Furthermore, consultation with Linda Balough, Executive Director of the South Park National Heritage Area in January of 2010 indicated that resource use was actually a part of the area's unique heritage and that the intent of the Act was to highlight the heritage of the area as well as its natural resources. Ms. Balough also noted that the county already had other designations in place (such as a Preserve America Community) with the National Heritage Area Designation. Discussions with Ms. Balough also identified the fact that any possible conflicts between oil and gas development and resource values mentioned in the National Heritage Area feasibility study would most likely involve cultural or scenic values. At this time, the proposed action only authorizes leasing the attached parcels and does not authorize any development or use of the surface of lease lands, without further application and approval by the BLM. Any site specific concerns related to cultural or visual (or other) values are typically identified and addressed during the NEPA process if, and when, any land disturbing activities (such as APDs) are being considered. Ms. Balough is aware and noted that a Section 106 process is required if, and when, any land disturbing activities (such as APDs) are being considered.

Standards for Public Land Health: In January 1997, Colorado BLM approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below.

## **AFFECTED ENVIRONMENT / ENVIRONMENTAL EFFECTS / MITIGATION MEASURES:**

### **PHYSICAL RESOURCES**

#### **AIR QUALITY AND CLIMATE**

Affected Environment: The U.S. Environmental Protection Agency (EPA) has established national air quality standards (NAAQS) for criteria pollutants, including carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Air pollutant concentrations greater than the NAAQS; represent a risk to human health and the environment. The EPA has delegated regulation of air quality under the federal Clean Air Act to the State of Colorado and is administered by the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division (APCD.)

In addition, the State has established its own Colorado Ambient Air Quality Standards (CAAQS), which can be more, but not less stringent than the NAAQS. Both the CAAQS and NAAQS identify maximum limits for concentrations of criteria air pollutants at all locations to which the public has access. The CAAQS and NAAQS are legally enforceable standards. Concentrations above the CAAQS and NAAQS represent a risk to human health that, by law, require public safeguards be implemented.

The proposed lease parcels are primarily located in rural portions of central and eastern Colorado. As such, existing air quality conditions are generally very good, and well below (cleaner than) applicable CAAQS and NAAQS. A significant exception is the 2011 Denver-Boulder-Greeley-Fort Collins Nonattainment Area which has demonstrated violations of the eight-hour ozone standards. All of the parcels available for leasing are located outside of the nonattainment area; five parcels located in Weld County have been deferred from leasing pending a specific detailed air quality impact assessment. Since the federal General Conformity regulations apply only with designated nonattainment and maintenance areas, none of the parcels available for leasing are subject to those regulations.

**Affected Environment, Climate:** On-going scientific research has identified the potential impacts of so-called Greenhouse Gas (GHG) emissions such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), water vapor; and several trace gases on global climate. Through complex interactions on a global scale, GHG emissions cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions), industrialization and burning of fossil carbon sources have caused GHG concentrations to increase measurably and may contribute to overall climatic changes.

The EPA (Region 8) has reported “In the coming decades, scientists project that climate change will lead to significant changes in the Mountain West and Great Plains” including several specific impacts. The BLM will continue to evaluate climatic variability and change in the future, and apply appropriate management techniques to address changing conditions.

**Environmental Consequences of the Proposed Action:** The decision to sell the leases would not result in any direct criteria pollutants, hazardous pollutants, and greenhouse gas emissions. However, the future development of these leases would emit these pollutants. This EA incorporates an analysis of the contributions of the proposed action to both air pollutant and GHG emissions. Air quality and climate are the components of air resources, which include applications, activities, and management of the air resource. Therefore, the BLM must consider and analyze the potential effects of the BLM and BLM-authorized activities on air resources as part of the planning and decision making process.

Assuming that development could eventually occur, an analysis (Archer 2011) was performed comparing air pollutant and so-called “greenhouse” gas emissions due to assumed oil and gas activities under “High” and “Low” scenarios. The analysis includes construction emissions (well pad and access road construction, as well as initial drilling), production emissions (vehicle traffic and on-site equipment), and maintenance emissions (periodic pad/road maintenance and well workovers), assumed to occur during the last/maximum (20th) year of development. All emissions are reported in tons per year (TPY).

For the “High” Scenario, it was assumed 95 oil and gas wells would be in production (based on 19 years of development at a 100% success rate), 5 wells would be drilled during the 20<sup>th</sup> year, for an ultimate total of 100 wells.

**Criteria Pollutant Emissions (TPY)**

carbon monoxide (CO) - 72  
oxides of nitrogen (NO<sub>x</sub>) - 55  
particulate matter less than 10 microns in diameter (PM-10) - 87  
particulate matter less than 2.5 microns in diameter (PM-2.5) - 9  
sulfur dioxide (SO<sub>2</sub>) - < 0.01  
volatile organic compounds (VOC) - 557

**"Greenhouse" Gas Emissions (TPY)**

carbon dioxide (CO<sub>2</sub>) - 41,418  
methane (CH<sub>4</sub>) - 1  
nitrous oxide (N<sub>2</sub>O) – 0.2

For the “Low” Scenario, it was assumed 76 oil and gas wells would be in production (based on 19 years of development at a 100% success rate), 4 wells would be drilled during the 20<sup>th</sup> year, for an ultimate total of 80 wells.

**Criteria Pollutant Emissions (TPY)**

carbon monoxide (CO) - 57  
oxides of nitrogen (NO<sub>x</sub>) - 44  
particulate matter less than 10 microns in diameter (PM-10) - 69  
particulate matter less than 2.5 microns in diameter (PM-2.5) - 7  
sulfur dioxide (SO<sub>2</sub>) - < 0.01  
volatile organic compounds (VOC) - 446

**"Greenhouse" Gas Emissions (TPY)**

carbon dioxide (CO<sub>2</sub>) - 33,135  
methane (CH<sub>4</sub>) - 1  
nitrous oxide (N<sub>2</sub>O) – 0.2

**Environmental Consequences, No Action Alternative:** There would be no impacts to air quality or climate from the No Action Alternative.

**Mitigative Measures:** No additional mitigative measures beyond those required by applicable local, state and federal air quality laws and regulations (including those of the State of Colorado Department of Public Health and Environment, and the Colorado Oil and Gas Conservation Commission) would be required for leasing. However, additional requirements could be imposed based on a detailed, site-specific air quality impact analysis at the APD stage once a site-specific proposal is identified.

**GEOLOGIC AND MINERAL RESOURCES**Affected Environment:

Geologic formations would be analyzed during the APD NEPA process.

Environmental Effects

#### Proposed Action

Sale of the parcels will allow development and recovery of oil and natural gas resources in the underlying oil and gas bearing formations. During drilling operations on the parcels, loss circulation or problems cementing the surface casing may affect freshwater aquifer zones encountered. The RGFO ensures the APD proposed casing and cementing program would be adequate to protect all of the resources, minerals and fresh water zones, 43 CFR §3162.5-2(d).

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

#### No Action Alternative

If the lease parcels were withdrawn from the current lease sale, recoverable natural gas and oil resources in the oil and gas bearing formations would not be developed at this time.

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

#### **SOILS** (includes a finding on Standard 1)

Affected Environment: The proposed lease parcels cover a large variety of soil types and conditions ranging from high elevation moist, cold soils in the South Park area to lower elevation dry, warmer soils in the east. These soils and associated topography vary in their suitability for use as roads, fill and related infrastructure during subsequent exploration and production of the lease.

#### Environmental Effects

##### Proposed Action:

Direct and Indirect Impacts: The act of leasing the parcels for oil and gas development would have no direct impact on soil resources; however impacts at the exploration and development stage would have impacts on soils. The magnitude and location of direct and indirect effects cannot be predicted until the site-specific APD stage of development. These parcels would be leased with stipulations to protect resources, specifically, stipulations CO-26, CO-27 and RG-16 address fragile soils and slope stability issues that would avoid or mitigate soil impacts.

At the exploration and development stage, soils would be physically disturbed through the removal and compaction of soil and the exposure of subsoils. Direct impacts at this stage would result from the construction of well pads, roads, powerlines and other infrastructure removing vegetation, exposing soil, mixing horizons, compaction, loss of productivity, and loss of soil through wind/water erosion. On most of the lease parcels, wind erosion would be expected to be minor; however on some of the parcels in the northeast plains wind erosion could be severe.

Decreased soil productivity as a result of these impacts has the potential to hinder revegetation efforts and leave soils further exposed to erosion. Segregation and reapplication of surface soils would result in the mixing of shallow soil horizons, resulting in a blending of soil characteristics and types. This blending would modify physical characteristics of the soils, including structure, texture, and rock content, which could lead to reduced permeability and increased runoff from these areas.

Contamination of surface and subsurface soils can occur from leaks or spills of oil, produced water, and condensate liquids from wellheads, produced water sumps and condensate storage tanks. Leaks or spills of drilling and hydraulic fracturing chemicals, fuels and lubricants could also result in soil contamination. Such leaks or spills could compromise the productivity of the affected soils. Of these materials, leaks or spills of condensate would have the greatest potential environmental impact. Depending on the size and type of spill, the impact to soils would primarily consist of the loss of soil productivity. Typically, contaminated soils would be removed and disposed of in a permitted facility or would be bioremediated in place using techniques such as excavating and mulching to increase biotic activities that would break down petrochemicals into inert and/or common organic compounds. These direct impacts of the development phase are lessened through lease stipulations and the implementation of Best Management Practices. Parcels with soils that have aliquot parts with a high erosion hazard have had stipulation CO-26 applied that requires the operator submit a construction/reclamation plan that includes specific criteria to protect soils. Parcels that have aliquot parts with slopes over 40% have had stipulation CO-27 applied that requires the operator submit an engineering/reclamation plan that includes specific criteria to address slopes and protect site productivity. Parcels that have aliquot parts with extremely steep slopes, slope stability issues, and/or fragile soils have had stipulation RG-16 applied that does not allow surface occupancy.

**Cumulative Impacts:** Throughout the lease area there are many activities currently occurring, along with historic impacts, which affect soil resources. These activities include: oil and gas development, residential development, grazing, mining and recreation. At the 5<sup>th</sup> level watershed scale, the leasing and subsequent development of these parcels would add an additional impact to soil resources into the future. Most of this impact would be phased in and lessened as individual wells are completed and older wells are reclaimed.

**Mitigation/Residual Effects:** As described in Conditions of Approval at the APD stage, operators could stockpile the topsoil from the surface of well pads which would be used for surface reclamation of the well pads. If the well produces, the top soil can be used for interim reclamation of the areas of the well pad not in use. If the well is a dry hole, the soil can be used for immediate reclamation. The soil should not be stockpiled for more than one year. Soil stockpiling and re-spreading should be carried out under the advisement of BLM personnel. The impact to the soil would be remedied upon reclamation of well pads when the stockpiled soil that was specifically conserved to establish a seed bed is spread over well pads and vegetation re-establishes. Upon abandonment of wells and/or when access roads are no longer in service, the Authorized Officer would issue instructions and/or orders for surface reclamation/restoration of the disturbed areas as described in Conditions of Approval at the APD stage. An orderly system of road locations and road construction requirements (including regular maintenance) would alleviate potential impacts to the environment from the development of access roads.

#### No Action Alternative

Direct and Indirect Impacts: There would be no immediate or future impacts to soils due to oil and gas development if no action is taken.

Cumulative Impacts: None

Mitigation/Residual Effects: None

**Finding on the Public Land Health Standard for Upland Soils:** Most of the surface ownership of the lands being proposed for leasing is privately owned; therefore no site specific knowledge of soil resources is available. In general, most of the soils in these areas are in good condition. The leasing of these parcels would not have an effect on whether or not these lands meet Public Land Health Standards; however at the development stage there would be instances where soils are affected negatively. With proper Best Management Practices (BMP) implementation, soil resource impacts would be mitigated and would still meet standards with future development.

#### **WATER QUALITY, SURFACE AND GROUND** (includes a finding on Standard 5)

##### Affected Environment:

*Surface Water:* The proposed lease parcels are located throughout the South Platte and Arkansas River basins of Colorado. These areas range from the headwater areas of these rivers in South Park and Huerfano County to the eastern plains near Kansas. In general, the water quality in these rivers is good near the headwaters and declines as one goes downstream. The major water quality concerns for these waters is generally sediment and heavy metals in the mountains and progresses to more organic and salinity related issues on the plains. Potential impacts to water quality associated with any exploration and development activities would be assessed for each location during specific project proposals (i.e. at the APD stage).

*Ground Water:* The proposed lease parcels are located throughout central and eastern Colorado in varying locations ranging from mountainous areas to the eastern plains. These leases occupy one of three general aquifers: the valley-fill and intermontane park aquifers in the west within South Park and Huerfano Park, the High Plains Aquifer in the far eastern plains, and the Dakota-Cheyenne Aquifer in the western portion of the eastern plains. Water quality in these aquifers is variable depending on which formation the water is located. In some formations, the water quality is very good, while in others, it is poor.

##### Environmental Effects

##### Proposed Action:

Direct and Indirect Impacts: The act of leasing the parcels for oil and gas development would have no direct impact on water resources; however impacts at the exploration and development stage would have impacts to water quality. The magnitude and location of direct

and indirect effects cannot be predicted until the site-specific APD stage of development. These parcels would be leased with stipulations to protect resources; however there are no lease stipulations that specifically address either surface or groundwater quality. Stipulations CO-26, CO-27 and RG-16 do address soils and slope stability issues that would directly protect soils, consequent erosion and water quality.

*Surface Water:* Impacts to surface water resources would be associated with the surface disturbance from the construction of roads, pipelines, well pads, and powerlines. Specific impacts would be soil compaction caused by construction that would reduce the soil infiltration rates, in turn increasing runoff during precipitation events. Downstream effects of the increased runoff may include changes in downstream channel morphology such as bed and bank erosion or accretion. Impacts would be greatest shortly after the start of the activity and decrease over time. These impacts can also be mitigated by the implementation of Best Management Practices (BMP) that would design facilities with temporary runoff control measures that would slow down runoff and capture sediment. These BMP's would be included at the APD stage to address site specific conditions based on submitted Surface Use and Drilling Plans.

Chemicals, or other fluids, accidentally spilled or leaked during the development process could result in the contamination of both ground and surface waters. Authorization of development projects would be further analyzed at the APD stage and require full compliance with BLM directives and stipulations that relate to surface and groundwater protection.

Lease parcels #5916, 5917, 5975, 5976 and 5978 all have areas that are either in or immediately adjacent to Spinney Mountain Reservoir, which is a municipal water supply for the City of Aurora. Lands within one mile of the reservoirs high water mark have been deferred from leasing during this sale until further analysis can be completed.

Lease parcels #5882, 5897, and 5880 have had stipulation NE-01 applied to them that provide for No Surface Occupancy to areas within ¼ mile of reservoirs on the eastern plains along with the reservoir Rights-of-Way themselves excluded from the lease sale.

*Ground Water:* The eventual drilling of the proposed parcels would most likely pass through useable groundwater. Potential impacts to groundwater resources could occur if proper cementing and casing programs are not followed. This could include loss of well integrity, surface spills, or loss of fluids in the drilling and completion process. It is possible for chemical additives used in drilling activities to be introduced into the water producing formations without proper casing and cementing of the well bore. Changes in porosity or other properties of the rock being drilled through can result in the loss of drilling fluids. When this occurs, drilling fluids can be introduced into groundwater without proper cementing and casing. Site specific conditions and drilling practices determine the probability of this occurrence and determine the groundwater resources that could be impacted. In addition to changing the producing formations' physical properties by increasing the flow of water, gas, and/or oil around the well bore; hydraulic fracturing can also introduce chemical additives into the producing formations. Types of chemical additives used in drilling activities may include acids, hydrocarbons, thickening agents, lubricants, and other additives that are operator and location specific. These additives are not always used in these drilling activities and some are likely to be benign such as

bentonite clay and sand. Concentrations of these additives also vary considerably since different mixtures can be used for different purposes in oil and gas development and even in the same well bore. If contamination of aquifers from any source occurs, changes in groundwater quality could impact springs and residential wells if these springs and residential wells are sourced from the same aquifers that have been affected. Onshore Order #2 requires that the proposed casing and cementing programs shall be conducted as approved to protect and/or isolate all usable water zones.

Known water bearing zones in the lease area are protected by drilling requirements and, with proper practices, contamination of ground water resources is highly unlikely. Casing along with cement is extended well beyond fresh-water zones to insure that drilling fluids remain within the well bore and do not enter groundwater.

Potential impacts to ground water at site specific locations are analyzed through the NEPA review process at the development stage when the APD is submitted. This process includes geologic and engineering reviews to ensure that cementing and casing programs are adequate to protect all downhole resources.

**Cumulative Impacts:** Throughout the lease area there are many activities currently occurring, along with historic impacts, which affect water quality. These activities include: oil and gas development, residential development, grazing, mining and recreation. At the 5<sup>th</sup> level watershed scale, the leasing and subsequent development of these parcels would add an additional impact to water resources into the future. Most of this impact would be phased in and lessened as individual wells are completed and older wells are reclaimed. Overall, it is not expected that the leasing and possible future development of the parcels would cause long term degradation of water quality below State standards.

**Mitigation/Residual Effects:** The soils mitigation, along with additional construction requirements, at the APD stage is adequate to protect water resources on the parcels being proposed for leasing. Additional site specific mitigation measures would be analyzed and added at the APD stage.

**No Action Alternative:**

**Direct and Indirect Impacts:** If these lands are not leased for oil and gas development, no new impacts to water resources would occur; however it is likely that development would still continue on adjacent private lands.

**Cumulative Impacts:** None

**Mitigation/Residual Effects:** None

**Finding on the Public Land Health Standard for Water Quality:** Most of the surface ownership of the lands being proposed for leasing is privately owned; therefore no site specific knowledge of water quality is available. In general, most of the water quality in these areas is good and there is very little surface water. The leasing of these parcels would not have an effect on whether or not these lands meet Public Land Health Standards; however at the development

stage there could be instances where water quality is affected negatively. With proper BMP implementation, water quality should still meet standards with future development.

## **BIOLOGICAL RESOURCES**

### **INVASIVE, NON-NATIVE SPECIES**

Affected Environment: Invasive species and noxious weeds occur on BLM surface acres within the affected area. Downy brome (cheatgrass) and other annual weeds are common along roadsides and on other disturbed areas. Houndstongue, Canada thistle, bull thistle, musk thistle, Russian thistle, spotted and diffuse knapweeds, leafy spurge, and hoary cress are also known to occur in these areas. Other species of noxious weeds can be introduced by vehicle traffic, livestock and wildlife and will readily spread into newly disturbed areas. The BLM and county weed and pest managers collaborate in their efforts to control weeds and find the best integrated approaches to achieve these results. For all actions on public lands that involve surface disturbance or rehabilitation, reasonable measures are required to prevent the introduction or spread of noxious weeds. These measures may include power washing or air blasting of construction equipment to remove soil, oil, and vegetative parts and requirements for using certified weed-free seed and weed-free hay, mulch, and straw. In addition, any actions that result in the introduction or spread of invasive non-native or noxious weeds would be mitigated by standard weed management guidelines under the direction of the BLM.

### **Environmental Effects**

#### **Proposed Action**

**Direct and Indirect Impacts:** If drilling were to occur on these parcels subsequent activities would create an environment for and provide a mode of transport for invasive species and other noxious weeds to become established. Construction equipment and any other vehicles or equipment brought onto the site can introduce weed species. Wind, water, recreation vehicles, livestock and wildlife would also assist with the distribution of weed seed into the newly disturbed areas. Non-native and invasive weed species that occur on adjacent rangelands would occupy disturbed areas; the bare soils and the lack of competition from a perennial plant community would allow these weed species to grow unchecked and can affect the establishment of seeded plant species. Establishment of perennial grasses and other seeded plants as part of interim reclamation is expected to reduce the presence of invasive annual weeds.

At the APD stage, the operator would be required to control any invasive and/or non-native weeds that become established within the disturbed areas involved with drilling and operating the well and continue weed control actions throughout the life of the project.

**Cumulative Impacts:** The proposed action would have little cumulative impact on the area.

Mitigation/Residual Effects: The site should be monitored for non-native species prior to soil disturbing activities and for at least two growing seasons after the project area has been rehabilitated. All non-native species identified by monitoring must be treated. Proponent will be responsible for Monitoring and treatment of non-native species. Periodic monitoring would be done by BLM staff.

No Action Alternative

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

**THREATENED, ENDANGERED, AND SENSITIVE SPECIES** (includes a finding on Std. 4)

Affected Environment: No federally listed species has the potential to be directly influenced by development of the proposed leases based in existing data from the BLM, CNHP and CDOW. The Gunnison's prairie dog (GPD) (federal candidate species) and the mountain plover, black-tailed prairie dog, swift fox, townsend's big eared bat, common kingsnake, milk snake, massasauga, American white pelican, northern goshawk, ferruginous hawk and bald eagle (BLM sensitive species) could potentially occur on parcels up for leasing. Species which are not listed by the United States Fish and Wildlife Service and are not a BLM sensitive species (e.g. checkerspot butterfly) do not necessitate a stipulation at the leasing phase.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal. Protective measures for these species will be applied, if necessary, at the APD stage and might include the need to move drill rigs, timing restriction, etc. Additional NEPA will be completed as individual APDs are received for all the parcels identified in this document. Site specific visits will be conducted as deemed necessary for those parcels that contain sensitive species habitat. Water depletions from South Platte River watershed may affect the least tern, whooping crane, piping plover and pallid sturgeon or its habitat if leased parcels are developed.

Lynx: The lease sale includes parcels that are located within the Sangres and Spanish Peaks Lynx Analysis Units. Parcels 5941, 5994, 5996, 5998, and 6001 occur within these units. While the parcels are located within the LAUs, they are located on the periphery of core lynx habitat in Colorado.

Gunnison's Prairie Dog: Historically, GPD had been found in South Park and other high elevation prairies throughout the RGFO. While GPD may be found throughout the RGFO in suitable habitats, the species is relatively rare. It can be found in portions of Fremont County, especially along the High Park road, the southern end of South Park along Badger Creek, and in Park, Huerfano, Chaffee and Lake Counties in the flat, gentle terrain with grassland habitat. Surveys have not been done that would provide more complete data on locations and extent of their range within RGFO.

Mountain Plover: Mountain Plover's are found throughout the Royal Gorge Field Office (RGFO) in suitable habitats. While the species is relatively rare they can be found generally in open, flat tablelands that display some function of disturbance such as drought, grazing, fire, etc. (Knopf and Miller 1994). Mountain Plover's occupy portions of Larimer, Weld, Logan, Morgan, Washington, Yuma, Adams, Arapahoe, Elbert, Lincoln, Kit Carson, El Paso, Cheyenne, Pueblo, Crowley, Kiowa, Otero, Bent, Prowers, Huerfano, Las Animas, Baca, and Park counties in the RGFO. Plover habitat associated with this assessment is located within South Park in Park County and Crowley, Huerfano, Lincoln, Otero, and Pueblo counties along the eastern plains.

Black-tailed prairie dog: The BLM considers the black-tailed prairie dog a sensitive species. Black-tailed prairie dogs primarily occur in scattered colonies throughout the eastern plains of Colorado. In the summer of 2001, Colorado started aerial surveys for black-tailed prairie dogs throughout their historic range. Based on known locations of black-tailed prairie dogs, transects were developed for each county to give a 95% confidence interval to the resulting data. Statewide 631,000 acres of black-tail prairie dog colonies were documented.

Swift Fox: Swift foxes primarily occur in short-grass and mixed-grass prairie in the eastern plains of Colorado. The distribution of swift foxes became severely reduced in concert with conversion of mid- and shortgrass prairies to agriculture. Swift fox dens occur in ridges, slopes, hill tops, pastures, roadside ditches, fence rows and cultivated fields. Dens may be relatively close to human habitations and swift foxes occasionally den in human-made structures such as culverts. Swift foxes primarily consume animals, with leporids and rodents the most frequent prey.

Townsend's big-eared bat: The Townsend's big-eared bat occurs throughout the west and in Colorado. Habitat associations include: coniferous forests, deserts, native prairies, riparian communities, and agricultural areas. It's distribution is strongly correlated with the availability of caves and cave-like roosting habitat, with population centers occurring in areas dominated by exposed, cavity forming rock and/or historic mining districts. It's habit of roosting on open surfaces makes it readily detectable, and it is often the species most frequently observed (commonly in low numbers) in caves and abandoned mines throughout its range. It has also been reported to utilize buildings, bridges, rock crevices and hollow trees as roost sites.

Foraging associations include: edge habitats along streams, adjacent to and within a variety of wooded habitats. It often travels large distances while foraging, including movements of over 10 miles during a single evening. It is a moth specialist with over 90% of its diet composed of lepidopterans.

The primary threat to the species is almost certainly disturbance or destruction of roost sites (e.g., recreational caving, mine reclamation, renewed mining in historic districts). This species is very sensitive to disturbance events and has been documented to abandon roost sites after human visitation. Both roosting and foraging habitat may be impacted by timber harvest practices. Pesticide spraying in forested and agricultural areas may affect the prey base.

American white pelican: Habitat includes rivers, lakes, reservoirs, estuaries, bays, and open marshes, sometimes inshore marine habitats. Pelicans rest/roost on islands and peninsulas.

Nests usually are on islands or peninsulas (natural or dredge spoils) in brackish or freshwater lakes and reservoirs, or on ephemeral islands in shallower wetlands as in the northern Great Plains or on the Texas coast. Eggs are laid on the ground in a slight depression or on a mound of earth and debris 24-36 inches across, 15-20 inches high, usually on low flat, or gently sloping terrain. Nest sites usually are in open areas but often near vegetation, driftwood, or large rocks. Many of the reservoirs within the RGFO resource area serve as important foraging and nesting locations. In this lease sale, parcels near Riverside Reservoir, Empire Reservoir, South Platte River on the eastern plains and near Spinney Reservoirs and the South Platte River in Park County contain white pelican habitat.

Northern goshawk: Northern goshawks are associated with coniferous and mixed forests through much of the Northern hemisphere. Studies of nesting habitat show that goshawks nest in older-aged forests with variable tree species. The most consistent vegetative characteristic of goshawk nest sites is high percent canopy closure. Studies on habitat characteristics at goshawk sites have reported average canopy closure measurements ranging from 60% in eastern Oregon, 77% in northern California and 94% in northwestern California. Stand structure ranges from dense multi-layered stands in Oregon to open park-like understories in Colorado and California. Average tree size is just as variable with mean tree diameters ranging from 8-20 inches in Colorado, and 20 inches in Oregon. Goshawks appear to prefer north to east aspects for nest sites as stands on these aspects are typically denser and more suitable. Slope also appears important as nests are usually placed on flat to moderately sloped land where trees are able to grow larger and at a higher density (1-39%). The importance of the proximity of the nest area to water is not known.

Knowledge of the foraging habitat is poor. The goshawk is a height zone generalist, taking prey from the ground-shrub, shrub-canopy, and canopy layers and they have a preference for woodlands with large, mature trees. Meadows, streams, and aspen stands may be important to prey species on which the goshawk feeds. Goshawks, however, forage in a variety of habitats probably along edge as well as in deep forests, provided that there is available prey and the vegetation is not too dense to prevent flight. Prey plucking sites within the nesting territory is also a habitat characteristic related to foraging. Prey plucking sites usually consist of stumps, fallen logs, snags, arched trees, rocks, or horizontal tree limbs below the canopy. Available evidence suggests that two important resources, food and nest habitat, are the principle mechanisms limiting goshawk densities. Specifically, populations may be limited by shortage of nest sites; and where nest sites are readily available, densities may be limited by food abundance and availability.

Very little goshawk habitat is managed by the BLM. Public lands are generally lower elevation forests consisting primarily of pinyon-juniper vegetation. Only small areas within the proposed lease parcels would be considered suitable habitat for goshawk.

Bald eagle: Colorado populations of bald eagles typically nest in large cottonwood trees along rivers and reservoirs. Eagle densities reach their peak during the winter months when migrants arrive from the north. The bald eagle is a common winter (December through February) visitor to the Arkansas River valley. Typically, up to five birds can be found from Leadville to Canon City, and up to five birds can be found from Canon City to Pueblo Reservoir. Bald eagle usage

(winter roosting, nesting, etc.) occurs near several major riparian areas and reservoirs on the eastern plains. Parcel 5880, near Empire Reservoir, is a Bald Eagle winter concentration area and contains eagle roost sites.

## Environmental Effects

### Proposed Action

**Direct and Indirect Impacts:** The act of leasing the parcels for oil and gas development would have no direct impact on wildlife resources; however, exploration and development of leased parcels would likely impact wildlife. The magnitude and location of direct and indirect effects cannot be predicted until the site-specific APD stage of development. However, the authorization to lease parcels for oil and gas development will likely result in future development at some locations. At this time, the speculative nature of this process does not provide specifics of development; therefore, impacts to terrestrial wildlife from development remain unknown. Potential effects of development for some species are below.

**Mountain Plover:** Oil and gas extraction activities may be compatible with Mountain Plover needs. In Utah, disturbed areas around oil well pads create open habitat with high amounts of bare ground suitable for Mountain Plovers (Day 1994). Ball (1996) recommended curtailing or prohibiting activities during the peak breeding period; however, Mountain Plovers in southeastern Wyoming did not seem to be disturbed by nearby mining activity (Parrish 1988).

**Swift Fox:** Oil and natural gas exploration also fragment existing grasslands and increase road traffic and access by humans. Impacts of this type of disturbance on Swift Foxes are unknown, but both positive and negative effects may be expected. On the positive side, prey abundance for Swift Foxes may increase in the vicinity of roads. However, loss of local habitat, increased mortality due to road kills, trapping and accidental shooting may also result (Carbyn et al. 1994).

**Townsend's big eared bat:** It is unlikely that the proposed lease parcels offer habitat suitable for hibernation or rearing of young Townsend's big eared bat. Perhaps widely distributed singly or in small groups during the summer months, roosting bats may be subject to localized disturbance from development activity and relatively minor but long term reductions in the a real extent of mature woodland stands as sources of roost substrate.

**Northern goshawk:** Goshawk nests could potentially occur in any parcel that involves mature pinyon-juniper, mixed conifer, or aspen woodlands. The combination of expanded NSO and TL lease stipulations minimize or avoid adverse modification of nesting habitat. Raptor nest surveys are required prior to project implementation in those areas potentially influenced by proposed development activities. Information on functional nest sites found in the course of survey are used as the basis for applying timing limitations that reduce the risk of nest activity disruptions that could result in reproductive failure or compromising the long-term utility of nest habitat.

**Bald eagle:** Bald eagle foraging and nesting is dispersed and opportunistic across the entire RGFO area, with most activity centered near major riparian and reservoir areas. Surface disturbing activities that have potential to disrupt important bald eagle seasonal use activities are subject to NSO and TL provisions established in the Royal Gorge RMP. These stipulations have

been successful in protecting ongoing nest efforts and maintaining the long term utility of roost and nest sites in the resource area.

**Cumulative Impacts:** Throughout the lease area there are many activities currently occurring, along with historic impacts, which affect wildlife resources. These activities include: oil and gas development, residential development, grazing, agriculture, mining and recreation. While the leasing of parcels will not compound these impacts, future oil and gas development may impose deleterious effects. Every parcel is unique and cumulative impacts will need to be thoroughly addressed in the development and APD stage.

**Mitigation/Residual Effects:** All lease parcels are stipulated to potentially contain habitat for threatened, endangered, candidate, or other special status plant or animal (CO-34) providing the opportunity to apply future restrictions on development if said species and/or its habitat is found on the parcel. Species and habitat protected by CO-34 include Gunnison's prairie dog, lynx, lesser prairie chicken, mountain plover (specific to lands managed by the North East Resource Management Plan), and Preble's meadow jumping mouse, among others. Additionally, mountain plover (RG-19), American white pelican (CO-18), and Bald Eagle (CO-04) have stipulations in place that are specific for these species. Individual parcels have been stipulated appropriately with provisions found within respective RMPs to protect species that are currently listed or deemed sensitive (Attachment C).

**No Action Alternative:**

**Direct and Indirect Impacts:** If these lands are not leased for oil and gas development, no new impacts to threatened, endangered or sensitive species would occur; however it is likely that development would still continue on adjacent private lands.

**Cumulative Impacts:** None

**Mitigation/Residual Effects:** None

**Public Comment Responses:**

**“BLM is asked to defer leasing parcels 5973 and 5976 because they contain known Gunnison's prairie dog colonies.”**

BLM does not have a species specific stipulation designated for Gunnison's prairie dog. However, stipulation CO-34 has been applied to these parcels that will provide the BLM an opportunity to apply restrictions and mitigation on potential future development if negative impacts are expected to occur. The act of leasing the land for potential future development has no effect on the species.

**“BLM is asked to defer leasing parcels 5941, 5994, and 5996 that have been identified as Lynx Analysis Units, lynx denning and wither habitat, potential lynx habitat, and habitat otherwise designated as important to Canada lynx.”**

BLM does not have a species specific stipulation designated for Canada lynx. However, stipulation CO-34 has been applied to these parcels that will provide the BLM an opportunity to apply restrictions and mitigation on potential future development if negative impacts are expected to occur.

**“BLM should ensure leasing, exploration, and development of parcels 5878, 5879, 5880, 5881, and 6065 will not have negative impacts on the Preble’s meadow jumping mouse.”**

Impacts of exploration and development could range from no impact to a significant impact. Until parcels are leased and an exploration or development plan is brought forward, the exploration and development impact to Preble’s meadow jumping mouse will be unknown. BLM does not have a species specific stipulation designated for Preble’s meadow jumping mouse. However, stipulation CO-34 has been applied to these parcels that will provide the BLM an opportunity to apply restrictions and mitigation on potential future development if negative impacts are expected to occur. The act of leasing the land for potential future development has no effect on the species.

**“BLM should defer the lease of parcels 5879 and 5880 due to impacts to the white pelican.”**

The BLM has attached timing limitation stipulation CO-17 to these parcels. No surface use is allowed from March 16 through September 30 (does not apply to operation and maintenance of production facilities). The stipulation was analyzed and deemed adequate for protection of the white pelican in the “Colorado Oil and Gas Leasing and Development Final Environmental Impact Statement.”

**“BLM should defer the lease of parcels 5916, 5972, 5973, 5974, 5975, 5976, 5977, 5978, 5979, 5980, 5981, and 5994, all of which include mountain plover habitat, in order to consider the direct, indirect, and cumulative impacts of leasing and development on the mountain plover.”**

Impacts of exploration and development could range from no impact to a significant impact. Until parcels are leased and an exploration or development plan is brought forward, the exploration and development impact to mountain plover will be unknown. Stipulation RG-19 had been applied to all parcels except 5972 and 5994. Stipulation RG-19 will be applied to parcel 5972; however, parcel 5994 is primarily wooded and is not mountain plover habitat. The stipulation was analyzed and deemed adequate for the protection of mountain plover by the Royal Gorge Resource Area Resource Management Plan.

**“BLM should analyze impact to the habitat of checkerspot butterfly.”**

At the leasing stage, the BLM does not have a stipulation within any RMP that may be applied to individual parcels in regards to the checkerspot butterfly.

**Finding on the Public Land Health Standard for Threatened & Endangered species:** The proposed action will not result in change to the physical environment; therefore, this action will not jeopardize any special status wildlife habitat or species on site. Any APD approved by the

BLM on leased parcels in the future should contain the necessary COAs and BMP stipulations to continue meeting the public land health standard.

**VEGETATION** (includes a finding on Standard 3)

Affected Environment: The proposed lease parcels are scattered across a wide area of eastern Colorado. The parcels on BLM surface acres are located in Sedgwick, Park, Huerfano and Bent Counties. The surface parcels in these counties are within five Major Land Resource Areas (MLRA), (USDA Natural Resources Conservation Service, NRCS MLRA Explorer website).

Parcels located in Sedgwick County are within the Central High Tableland MLRA. This area supports short prairie grasses. Blue grama and buffalograss are the dominant species. Sideoats grama, blue grama, hairy grama, and little bluestem grow on the steeper valley walls along the major rivers.

Parcels located in Park County are within the Southern Rocky Mountain Parks MLRA. This area supports grass and grass-shrub vegetation. Western wheatgrass, Arizona fescue, mountain muhly, needleandthread, and Parry's oatgrass are common in South Park.

Parcels located in Huerfano County are within the Southern Rocky Mountain Foothills and Southern Rocky Mountains MLRAs. The Southern Rocky Mountain Foothills supports grassland, shrub-grassland, and forestland vegetation. Grassland that supports blue grama, buffalograss, and wheatgrasses is common at the lower elevations. Pinyon pine, juniper, true mountain mahogany, blue grama, needleandthread, and wheatgrasses are common in the southern Colorado and New Mexico portions of the MLRA. Ponderosa pine, Gambel oak, Douglas-fir, white fir, kinnikinnick, Parry's oatgrass, and Arizona fescue are common at the higher elevations. Cottonwood grows along the major streams.

The potential vegetation for the Southern Rocky Mountains is grass and sagebrush at the lower elevations, montane and subalpine coniferous forest and some grassland at the mid and high elevations, and alpine tundra on the mountain peaks above timberline (at an elevation of about 11,500 feet, or 3,505 meters). Some common plants are mountain big sagebrush, western wheatgrass, and needleandthread at the lower elevations; ponderosa pine, Rocky Mountain Douglas-fir, white fir, Arizona fescue, mountain muhly, common snowberry, Parry's oatgrass, and mountain brome at mid elevations; Engelmann spruce, subalpine fir, corkbark fir, lodgepole pine, limber pine, bristlecone pine, grouse whortleberry, elk sedge, and Thurber's fescue at the higher elevations; and kobresia, alpine bluegrass, alpine clover, and golden avens above timberline.

Parcels located in Bent County are within the Upper Arkansas Valley Rolling Plains MLRA. This area supports short prairie grasses. Blue grama, galleta, cholla, threeawn, ring muhly, and alkali sacaton are the major species. Cottonwood is common along the major streams. Stony and rocky soils support a mixed stand of pinyon and juniper with understory species similar to those in nearby openings and grasslands.

A more precise plant species composition and exact impacts to vegetation on a specific parcel would be determined when site specific proposals have been submitted to RGFO for analysis.

### Environmental Effects

#### Proposed Action

**Direct and Indirect Impacts:** Generally oil and gas development involves complete removal of vegetation and at times re-contouring of the landscape to allow for resources to be retrieved. The type of ground activity associated with oil and gas development does result in increased susceptibility to adverse impacts such as soil compaction, weed infestations and erosion (See Soils and Invasive, Non-Native Species sections). Due to these adverse impacts, establishment of native vegetation similar to adjacent undisturbed vegetation can take up to 30 years.

**Cumulative Impacts:** The proposed action would have little cumulative impact on the area.

**Mitigation/Residual Effects:** Proposed mitigation measures, including reclamation practices, would be developed upon environmental analysis of a site specific APD.

#### No Action Alternative

**Direct and Indirect Impacts:** None.

**Cumulative Impacts:** None.

**Mitigation/Residual Effects:** None.

#### **Finding on the Public Land Health Standard for Plant and Animal Communities:**

The project area was assessed for Standards for Public Land Health. Results vary from one parcel to another but for the most part the parcels are meeting public land health standards. The impacts related to the proposed action can be mitigated thru the proper implementation of a reclamation plan created in a site specific APD.

#### **WETLANDS & RIPARIAN ZONES** (includes a finding on Standard 2)

Affected Environment: Lease sales within the RGFO (including lands managed under the NERMP) are typically scattered across eastern Colorado in different counties with wide variation in climate, precipitation and land uses. As such, there is potentially a substantial range in the types of wetland and riparian habitats in the proximity of any given lease parcel. Additionally, when lease options occur on split estate parcels far removed from public land, the BLM generally lacks site specific inventory for the purposes of characterizing resources. In these instances, the BLM accesses various sources of information to determine potential presence / absence of wetland resource. If wetland or riparian zones are present, RGFO then applies stipulations to the lease parcel. CO-28 alerts the lesser that due to possible wetland or riparian resources, The BLM may restrict the location of drilling to a sufficient distance away from wetland resources so as not to directly impact, or potentially add another impact, that can alter the function of the wetland resource. The RGFO generally has more information of resources when on public land, but regardless, the riparian stipulation is attached to the lease parcel when wetland resources are present or possibly may be present on both public and private surface lands.

For this proposed action, lease parcels are generally uplands but occasionally are divided by small ephemeral, intermittent, or perennial drainages. Parcels with actual defined drainages, either intermittent or perennial receive riparian protective stipulation. Dry channels occasionally do receive riparian stipulations as well when The BLM cannot determine if the drainage supports wetlands. Drier drainage-ways can form wetland characteristics during wet cycles over several years even if normally dry and are protected to error on the conservative side. This lease sale includes parcels that are located in a range of settings from mountain summits with known seeps, springs and small streams to arid flat prairie where drainages are harder to define. Some lease parcels are adjacent to large reservoir water bodies, and have riparian as well as other restrictive surface occupancy restrictions.

## Environmental Effects

### Proposed Action

**Direct and Indirect Impacts:** The lease sale action does not subject wetland resources to any direct impact. Potential drilling and necessary infrastructure modifications related to field development at a later stage can directly or indirectly affect wetland or riparian areas. Generally, changes in upland area runoff due to upland vegetation disturbance from roadways, drill pads, etc., can result in accelerated erosion and deposition into water ways. With the CO 28 Stipulation attached to certain parcels at the leasing stage (Attachment C), if riparian or wetland aquatic habitat conditions are encountered at the development stages, pad location would be moved to minimize or eliminate impacts. Other land use has often previously modified many eastern Colorado resource potentials or capability from native conditions, but relocation of infrastructure away from important resources serves to not add additional modification to a watershed.

**Cumulative Impacts:** Similar to the varying climates across the lease sale landscape, the variation in land use is substantial for the scattered parcels. Land use derived modifications to drainages varies from minimal on parcels such as those near Mt. Maestas to extensive on some of those in the northeast part of the State, that include agricultural modifications such as plowed fields and drainage ways, nearby reservoir affects and other modifications. On certain parcels, post lease development would be intrusive where development would be noticeable disturbance, in areas adjacent to riparian or wetland areas. In other locations, development would be masked by extensive agriculture, already modified drainage ways or close proximity to other oil and gas development. Cumulative impact analysis at the scale of this lease is less meaningful than at the APD stage if a parcel is leased and development plans move forward.

**Mitigation/Residual Effects:** At the APD stage, RGFO will need to critically evaluate if location stipulations are sufficient to protect wetland resources or if in addition to location modification, if additional protective measures are necessary. RGFO will need to incorporate appropriate BMP's to buffer, limit, or control overland runoff from being accelerated into drainages.

### No Action Alternative

**Direct and Indirect Impacts:** Not leasing these parcels limits future development on parcels involved and discussed as having potential impact from the proposed action. Generally,

wetland and riparian resources on the parcels would stay in their existing condition, but due to the extensive amount of split estate, will be subject to the land uses implemented by land owners.

Cumulative Impacts: No additional cumulative impacts to eastern Colorado resources.

Mitigation/Residual Effects: None

**Finding on the Public Land Health Standard for Riparian Systems:** No public land riparian habitat condition ratings would be substantially altered by leasing these parcels given stipulation to locate future wells accordingly.

### **WILDLIFE, AQUATIC** (includes a finding on Standard 3)

Affected Environment: See also Wetland and Riparian. These lease parcels lie in both the Arkansas and South Platte watersheds within the RGFO. Elements like watershed, elevation, aquatic habitat type present, species introductions, etc., determines aquatic species likely to be present in the proximity to any particular parcel. The parcels are widely scattered across eastern Colorado and variation among aquatic wildlife species composition changes with location. Generally, parcels are entirely upland with only small drainages dividing upland areas. Parcels with defined drainages actually or suspected to be intermittent or perennial receive riparian protective stipulation. Dry channels occasionally do as well when The BLM cannot determine if the drainage supports wetlands. Drier drainage-ways can form wetland characteristics during wet cycles over several years even if usually dry and are protected with stipulation to be on the conservative side. Occasional short-term wet areas can be important to certain aquatic wildlife species. This lease sale includes parcels that are located in a range of settings from mountain summits with known seeps, springs and small streams to arid flat prairie where drainages are harder to define. Some lease parcels are adjacent to large reservoir water bodies, and have riparian stipulations as well as other restrictive surface occupancy restrictions.

### Environmental Effects

#### Proposed Action

**Direct and Indirect Impacts:** The lease sale action does not subject aquatic habitat resources to any direct impact. Potential drilling and necessary infrastructure modifications related to field development at a later stage can directly or indirectly affect some habitats. Generally, changes in upland area runoff due to upland vegetation disturbance from roadways, drill pads, etc., can result in accelerated erosion and deposition into water ways degrading aquatic habitat. With the CO 28 Stipulation attached to certain parcels at the leasing stage (Attachment C) if riparian or wetland aquatic habitat conditions are encountered at the development stages, pad location would be moved to minimize or eliminate impacts. Other land use has often previously modified many eastern Colorado aquatic resource potentials or capability from native conditions, but relocation of infrastructure away from aquatic habitat serves to limit additional modification to a watershed.

**Cumulative Impacts:** Similar to the varying climates across the lease sale landscape, the variation in land use is substantial for the scattered parcels. Land use derived modifications to drainages varies from minimal on parcels such as those near Mt. Maestas to extensive on some of those in the northeast part of the State, that include agricultural modifications such as plowed fields and drainage ways, nearby reservoir affects and other modifications. On certain parcels, post lease development would be intrusive where development would be noticeable disturbance, in areas adjacent to riparian or wetland areas. In other locations, development would be masked by extensive agriculture, already modified drainage ways or close proximity to other oil and gas development. Cumulative impact analysis at the scale of this lease is less meaningful than at the APD stage if a parcel is leased and development plans move forward.

**Mitigation/Residual Effects:** At the APD stage, RGFO will need to critically evaluate if location stipulation is sufficient to protect wetland resource, but also small aquatic habitats not locatable by remote sensing, or if in addition to location modification are there additional protective measures necessary then incorporate appropriate BMP's.

#### **No Action Alternative**

**Direct and Indirect Impacts:** Not leasing these parcels precludes any development discussed as having potential impact in the proposed action. Generally, aquatic habitat resources on the parcels stay in their existing condition, but due to the extensive amount of split estate, will be subject to the land uses determined as suitable by land owners.

**Cumulative Impacts:** No additional cumulative impacts to eastern Colorado resources.

**Mitigation/Residual Effects:** None

#### **Finding on the Public Land Health Standard for Plant and Animal Communities:**

No public land aquatic species community would be substantially altered by leasing these parcels. With the stipulation to locate future wells accordingly, and further NEPA review pending, the action is not likely to alter the composition of any aquatic wildlife community.

#### **WILDLIFE, TERRESTRIAL** (includes a finding on Standard 3)

**Affected Environment:** See the migratory bird section for a general habitat description of proposed lease parcels. The area encompassing the proposed lease parcels is vast and encompasses the full complement of big game (e.g., deer, elk, pronghorn, bighorn sheep) seasonal ranges. Most high elevation lease parcels are important reproduction areas for elk and bighorn sheep. Many of the lease parcels in South Park and the eastern plains serve as winter range for deer, elk and pronghorn. Winter range is that part of the overall range of a species where 90 percent of the individuals are located during the average five winters out of ten from the first heavy snowfall to spring green-up, or during a site specific period of winter as defined for each data analysis unit.

All or portions of the following parcels contain big game (mule deer, elk, pronghorn, bighorn sheep) winter habitat: 5878, 5880, 5896, 5898, 5918, 5919, 5920, 5933, 5939, 5940, 5941, 5943, 5973, 5974, 5975, 5976, 5979, 5980, 5987, 5993, 5994, 5995, 5996, 5997, 5998, 5999, 6000, 6001, 6002, 6036, and 6065.

All or portions of the following parcels contain elk calving habitat: 5994, 5996, 5998, and 6001.

All or portions of the following parcels contain bighorn sheep lambing habitat: 5941, 5996, 5999, 6000, 6001, and 6036.

Few raptor nest locations are known within the proposed lease parcels for two primary reasons, lack of information and the fact that many parcels are located on private surface. Lease stipulations attached to each parcel would require raptor nest surveys and maintain site characteristics of existing nest. Timing limitations will reduce disruption of adult attendance at each known occupied nest location.

Several parcels were located in Colorado Natural Heritage Program (CNHP) Potential Conservation Areas (PCAs). A PCA may include a single occurrence of a rare element or a suite of rare elements or significant features. The goal is to identify a land area that can provide the habitat and ecological processes upon which a particular element or suite of elements depends for their continued existence. The best available knowledge of each species' life history is used in conjunction with information about topographic, geomorphic, and hydrologic features, vegetative cover, as well as current and potential land uses. The proposed boundary does not automatically exclude all activity. Consideration of specific activities or land use changes proposed within or adjacent to the preliminary conservation planning boundary should be carefully considered and evaluated for their consequences to the element on which the conservation unit is based. Affected PCAs include South Park, South Platte River, Trout Creek, Gardner Butte, Purgatoire Prairie, Central Arkansas Playas, Pawnee Grassland, Eagle Rock Ranch, and Riverside Reservoir.

### Environmental Effects

#### Proposed Action

**Direct and Indirect Impacts:** The act of leasing the parcels for oil and gas development would have no direct impact on wildlife resources; however, impacts at the exploration and development stage could have impacts on wildlife. The magnitude and location of direct and indirect effects cannot be predicted until the site-specific APD stage of development.

Leasing parcels for oil and gas development will likely result in future development at some locations. At this time, the speculative nature of this process does not allow for specifics of development to be known; therefore, impacts to terrestrial wildlife caused by development remain unknown. If a parcel is leased and development occurs, impacts likely to occur will be habitat loss and fragmentation (well pad construction, road construction, etc.). Wildlife could avoid preferred habitat because of human presence, noise from drilling and production facilities, increased road density and traffic. Sawyer et al. (2006) demonstrated an avoidance response by mule deer of well pads and roads in the development of a natural gas field in western Wyoming.

The response was immediate (i.e., year 1 of development) and no evidence of acclimation occurred during the course of the 3 year study. However, the indirect habitat loss caused by an avoidance response of mule deer could be reduced by 38-63% with the use of advanced technologies and proper planning that minimize the number of well pads and amount of human activity associated with them (Sawyer et al. 2006). Elk have displayed similar avoidance characteristics as mule deer to oil and gas development. Radio collared elk in the Jack Marrow Hills, Wyoming displayed an avoidance buffer of 1000-m in winter and 2000-m in summer of roads and active well sites (Powell 2003). While habitat between the well sites in the studies listed above and the parcels in the RGFO lease sale may not be equal, a general assumption can be made that oil and gas development activities could alter habitat use of these terrestrial animals.

Raptors are protected by a combination of “no surface occupancy” and “timing limitation” stipulations are attached to parcels to reduce adverse affects of potential oil and gas development. This control method allows the protection of known active nest sites during the APD phase. While the footprint of individual wells is minimal, the total habitat lost to the network of wells and connecting roads can be considerable. The potential for oil and gas related disturbances of nesting, foraging and roosting raptors arises not only from new well installation activities, including road and pad construction, drilling, and equipment installation over the course of several weeks to months, but also from continual servicing and maintenance of wells over their productive lifetime.

Several lease parcels are located within PCAs; however, the RGFO RMP and the North East RMP contain a suite of stipulations that will protect the elements outlined in each PCA in the event that leased parcels are eventually developed.

**Cumulative Impacts:** Throughout the lease area there are many activities currently occurring, along with historic impacts, which affect wildlife resources. These activities include: oil and gas development, residential development, grazing, agriculture, mining and recreation. While the leasing of parcels will not compound these impacts, future oil and gas development may impose deleterious effects. Every parcel is unique and cumulative impacts will need to be thoroughly addressed in the APD stage.

**Mitigation/Residual Effects:** The uniqueness of each parcel requires a multitude of stipulations for leasing. Leasing stipulations have been appropriately attached (Attachment C) to protect and mitigate for valuable wildlife habitats (e.g. big game winter range (CO-09), elk calving grounds (CO-10), bighorn sheep lambing grounds (CO-12), raptor nesting and fledgling habitat (CO-18)). Additional conditions and requirements will likely be attached during the APD and development stage as well.

**No Action Alternative:**

**Direct and Indirect Impacts:** If these lands are not leased for oil and gas development, no new impacts to wildlife resources would occur; however it is possible that development could still continue on adjacent private lands.

**Cumulative Impacts:** None

Mitigation/Residual Effects: None

**Finding on the Public Land Health Standard for Plant and Animal Communities:**

The proposed action will not result in a change to the physical environment; therefore, this action will not jeopardize any wildlife habitat or species on site. Any APD approved by the BLM on leased parcels in the future should contain the necessary COAs and BMP stipulations to continue meeting the public land health standard.

**MIGRATORY BIRDS**

Affected Environment: BLM Instruction Memorandum No. 2008-050 provides guidance towards meeting the BLM's responsibilities under the Migratory Bird Treaty Act (MBTA) and Executive Order (EO) 13186. The guidance emphasizes management of habitat for species of conservation concern by avoiding or minimizing negative impacts and restoring and enhancing habitat quality.

Several habitat types are found within the area covered by this EA. At lower elevations the habitat types are primarily pinyon pine and juniper. Open areas of mountain grassland are interspersed throughout the area and mountain shrubs such as currant and mountain mahogany are abundant, especially on south slopes. Pinyon-juniper habitat supports the largest nesting bird species list of any upland vegetation type in the West. The richness of the pinyon-juniper vegetation type, however, is important due to its middle elevation. Survey tallies in pinyon-juniper are similar in species diversity to the best riparian. Several species are found in the pinyon-juniper habitat and include: black-chinned hummingbird, gray flycatcher, Cassin's kingbird, gray vireo, pinyon jay, juniper titmouse, black-throated gray warbler, Scott's oriole, ash-throated flycatcher, Bewick's wren, mountain chickadee, white-breasted nuthatch, and chipping sparrow.

Ponderosa pine, mixed conifer and mountain shrubland habitats are found at higher elevations in the project area. These sites are very dry and warm areas, with less than 25 in of precipitation annually. Mature ponderosa pine forests on dry sites are open, with mature trees achieving wide separation as they compete for limited soil moisture. Grassy ground cover is maintained by frequent low-intensity fires. Ponderosa pines are the largest conifers in Colorado and Gambel oak is a common component of the understory, typically in a shrubby form. Other common understory shrubs include mountain mahogany and wax currant. Tree species sometimes found mixed with ponderosa pine are junipers, pinyon pine, aspen, white fir, and Douglas-fir. Birds typical of these habitat types include Merriam's turkey, Williamson's sapsucker, pygmy nuthatch, western bluebird, band-tailed pigeon, Mexican spotted owl, Grace's warbler, flammulated owl, red-breasted nuthatch, violet-green swallow, western tanager, and chipping sparrow.

Foothills riparian forests are distributed along stream systems in the foothills, lower mountains and mountain parks. In some areas the riparian forest is dominated by a deciduous component, especially narrowleaf cottonwood, a variety of willow species, box elder, mountain alder and river birch. The understory of these systems is typically rich, with a wide variety of shrubs and

herbaceous plants. The Colorado Breeding Bird Atlas reported that foothills riparian forests dominated by deciduous trees comprised nearly 85% of all foothills riparian forests, while conifer-dominated systems comprised just over 15%. These two systems also exhibited somewhat different avian communities. Riparian areas represent a transition zone between the aquatic ecosystem and the drier uplands. The riparian zones are well defined, unique, and highly productive areas which are sensitive to disturbance. However in most western riparian systems 75% of the bird species use riparian areas during some part of their life cycle. In deciduous foothills riparian systems, yellow warbler is the species most frequently detected, followed by American robin, northern flicker, house wren, warbling vireo, song sparrow, western wood-pewee, and broad-tailed hummingbird.

The eastern plains of Colorado contains flat to gently rolling topography, with occasional canyons and bluffs. Elevations within Colorado range from about 3,200 ft in Prowers County to about 6,000 ft around Limon and near the foothills of the Rockies. Principal rivers include the South Platte, Arikaree, Big Sandy, Republican, and Arkansas. Precipitation is low, less than 20 in per year with most of that falling in spring and summer; total precipitation varies greatly between years at a given location and varies significantly more than in mixed grass or tallgrass systems. Mean monthly temperatures range from 10°F in winter to 100°F in summer. Localized severe weather is not uncommon, and blizzards, hailstorms, and tornadoes occur in most years.

The dominant habitat in this physiographic area is shortgrass prairie. Shortgrass is dominated by two low-growing warm-season grasses, blue grama and buffalo grass; western wheatgrass is also present, along with taller vegetation including widespread prickly-pear cactus and yucca, and cholla in the south. Sandsage prairie is found where sandy soils occur, and is dominated by sand sagebrush and the grasses sand bluestem and prairie sand-reed. Mixed grass (needle-and-thread, side-oats grama) and tallgrass (big bluestem, little bluestem, switchgrass) communities occur locally.

A second habitat in this physiographic area is lowland riparian. In the shortgrass prairie, lowland riparian habitats occur along the few stream and river courses. Riparian vegetation is dominated by plains cottonwood, willow shrubs, and introduced species such as Russian-olive and Chinese elm. Trees were uncommon features of the shortgrass prairie before European settlement; development of woody vegetation has been facilitated in historical times by alteration of natural river flow regimes, a result of irrigation drawdown and reservoir construction for flood control.

The following birds are listed on the US Fish and Wildlife Service Birds of Conservation Concern (BCC) – 2008 List for BCR 16-Southern Rockies/Colorado Plateau and BCR 18-Shortgrass Prairie. These species have been identified as species that may be found in the project area, have declining populations and should be protected from habitat alterations.

The golden eagle is a bird of grasslands, shrublands, pinyon-juniper woodlands, and ponderosa pine forests, may occur in most other habitats occasionally, especially in winter. Nests are placed on cliffs and sometimes in trees in rugged areas, and breeding birds range widely over surrounding habitats.

Flammulated owls prefer old-growth or mature ponderosa pine, apparently due to the presence of large broken-top and lightning-damaged snags and trees for nesting cavities, large cavities excavated by Northern Flickers and other woodpeckers, open structure of trees and under story for foraging, and high prey availability. They will utilize other habitats with similar structure, such as open mixed-conifer and aspen forests. Key habitat features seem to be the presence of large trees and snags, scattered clusters of shrubs or saplings, clearings, and a high abundance of nocturnal arthropod prey.

Northern harrier's reside throughout Colorado, with highest densities on the eastern plains, mountain parks, and western valleys. These hawks feed on small mammals, birds, reptiles, and amphibians. They hunt by flying low over wetlands, grasslands, shrublands, and croplands.

Peregrine falcons in Colorado breed on cliffs and rock outcrops from 4,500-9000 ft in elevation. They most commonly chosen cliffs lie within pinyon-juniper and ponderosa pine zones. These falcons feed on smaller birds almost exclusively, with White-throated swifts and rock doves being among their favored prey.

Prairie falcons nest in scattered locations throughout the state where they inhabit the grassland and cliff/rock habitat types. These falcons breed on cliffs and rock outcrops, and their diet during the breeding season is a mix of passerines and small mammals.

Williamson's sapsuckers breed in forested regions and in Colorado populations are concentrated along the eastern edge of the Rockies. Williamson's sapsuckers nest primarily in ponderosa pine and in aspen components of mixed-conifer. They often place nest cavities in aspen trees, and often choose nest trees in aspen stands adjacent to open ponderosa pine or mixed-conifer forest.

The Gray vireo nests in western Colorado and on the eastern slope of Las Animas County. Gray Vireos are pinyon-juniper woodland obligates. Gray Vireos usually inhabit stands dominated by juniper or thin stands of pure juniper. They construct nests of dry grasses, plant fibers, stems, and hair, often camouflaging them with sagebrush leaves.

Pinyon jays range the semiarid lands of the West. The Colorado Breeding Bird Atlas map shows them south of a diagonal line drawn from the northwest corner to the southeast corner of the state. Pinyon jays are pinyon and juniper obligates in Colorado and nest commonly at the lower elevations of pinyon-juniper woodlands, often where junipers dominate. A few nest in ponderosa pine. They prefer extensive stands far from high human activity.

Black-throated gray warblers are fairly common summer residents in pinyon-juniper woodlands across the southwestern half of Colorado. Some surveys show these warblers to be the most frequently encountered birds in the pinyon-juniper woodland. Black-throated gray warblers, in Colorado, are pinyon-juniper obligates, preferring tall, dense pinyon-juniper woodlands.

Virginia's warblers in Colorado nest between 5,000 and 9,000' elevation. They breed most abundantly in the western quarter of the state, along the eastern slope foothills, and in the Upper Arkansas River drainage. Virginia's warblers nest in dense shrublands and on scrub-adorned slopes of mesas, foothills, open ravines, and mountain valleys in semiarid country. They use

scrubby brush, pinyon-juniper woodland with a well-developed shrubby understory, ravines covered with scrub oak and dense shrublands--especially gambel oak. They also breed in open ponderosa pine savannahs that have a dense understory of tall shrubs.

Grace's warblers breed from southwestern Colorado and southern Utah, south through central Arizona, western New Mexico, and into north-central Mexico. Grace's warblers inhabit open ponderosa pine forests with pines 16 ft tall, especially with a shrubby understory, usually gambel oak.

### Environmental Effects

#### Proposed Action

Direct and Indirect Impacts: In order to be in compliance with the Migratory Bird Treaty Act (MBTA), requiring the BLM to avoid actions that “take” migratory birds, it is recommended that vegetation disturbance be avoided from April 15 thru July 15, when possible. This is the breeding and brood rearing season for most Colorado migratory birds. The actual lease sale would not impact any migratory bird species or their habitat, however, potential future development of the proposed leased parcels would influence both localized populations and their associated habitats.

In addition to the MBTA, the BLM has specific stipulations to protect birds and their habitat from activities that may impact these species. Disturbance to vegetation or human activity within nesting areas can impact birds during nesting and brood rearing season and the stipulations described can minimize these impacts.

Cumulative Impacts: Throughout the lease area there are many activities currently occurring, along with historic impacts, which affect wildlife resources. These activities include: oil and gas development, residential development, grazing, agriculture, mining and recreation. While the leasing of parcels will not compound these impacts, future oil and gas development may impose deleterious effects. Every parcel is unique and cumulative impacts will need to be thoroughly addressed in the APD stage.

Mitigation/Residual Effects: Appropriate lease stipulations to protect some migratory birds and their habitats were attached to parcels and described in Attachment C. Further, at the field development and APD state it is standard procedure to include a COA on all APDs that alerts the operator to their responsibility under the MBTA to effectively preclude migratory bird access to, or contact with, reserve pit contents that possess toxic properties (i.e., through ingestion or exposure) or have potential to compromise the water-repellent properties of birds' plumage.

#### No Action Alternative

Direct and Indirect Impacts: If these lands are not leased for oil and gas development, no new impacts to wildlife resources would occur; however it is possible that development could still continue on adjacent private lands.

Cumulative Impacts: None.

Mitigation/Residual Effects: None.

## **HERITAGE RESOURCES AND HUMAN ENVIRONMENT**

### **CULTURAL RESOURCES**

Affected Environment: **Paleoindian** sites are scarce in the eastern half of Colorado. During the years 10,000-5500 BC, Paleoindian populations appear to have subsisted on large game (based on associated lithic tools), and probably supplemented their diets with a variety of small game and vegetal materials. Paleoindian materials from the Clovis period (9500-8950 BC) have been reported for southeastern Colorado, and although not extensive, Folsom and Plano artifacts seem to suggest an increase in population through time. It appears that Paleoindian populations were living in relatively small groups, and seem to have been mostly nomadic.

Many more cultural materials dating to the **Archaic** period (5500 BC-AD 500) have been found. The general size reduction of lithic tools, coupled with the presence of groundstone and vegetal evidence, suggests that a gradual shift in subsistence from large game to smaller game and possible horticulture was taking place. As early as 7800 BP, Archaic populations were living in pithouses, and, later, in structures with stone foundations. Based on these and other data, it appears that Archaic groups were sedentary to some extent.

Evidence of the **Formative and Late Prehistoric/Protohistoric** periods (AD 500-1600) occupations is spotty in the mountain region. While some scholars interpret data from these periods as representing a clearly defined "mountain formative culture", the majority still believe that the mountains were inhabited seasonally by Plains-oriented groups. However, there is little to indicate substantial Formative or Late Prehistoric/Protohistoric settlement in the mountains, most likely due to a nomadic lifestyle.

The appearance of pottery and stemmed, corner-notched projectile points in the archaeological record suggest a change in culture in the Colorado Plains around AD 100. The **Late Prehistoric** (AD 100-1725) was a time when aboriginal populations in eastern Colorado seemed to have adopted a more sedentary lifestyle than in previous times. The construction of complex structural sites, the adoption of pottery and the increased dependence on horticulture (in the southeastern Plains) are all suggestive of less mobility.

Sites dating to the protohistoric period (beginning with the **Diversification** Period, AD 1450-1725) are difficult to identify. In southeastern Colorado, sites of that time period are dated based on the presence of "Apachean" traits, like pottery, rock art, and stone circles. In northeastern Colorado, the Dismal River Aspect (AD 1525-1725) is distinguished by shallow pithouses, bell-shaped roasting pits, and by Dismal River Gray Ware ceramics.

The **Protohistoric** was a time of increasing population movement, and was further complicated by the arrival of the Spanish, and, later, the Euro-Americans. Starting in 1725, and continuing until they were entirely eliminated by the 1870s, Native American groups identified as the

Plains, Jicarilla, and Kiowa Apaches; the Utes; the Arapaho; the Comanches; the Cheyennes; and occasionally the Crow, Shoshoni, and the Blackfeet, were known to occupy the Plains region.

Europeans first explored southeastern Colorado in 1540. By 1822, Spanish dominance of the area ended. The Santa Fe Trail was established that year, bringing American populations into the region. Commercial ranching commenced in the 1860s, and the Homestead Act of 1862 increased the population further. By 1870, all Native American groups had been subdued, following several decades of violence. Buffalo hunting, popular since the early 1800s among Euro-Americans, finally decimated any remaining animals by 1880. After 1900, sugar beet production and dryland farming and ranching were the dominant industries in the area. The Great Depression of 1929 and the Dust Bowl of the 1930s combined to cause severe problems for agriculturalists. By 1941, programs created by the Roosevelt administration and the industrial needs resulting from the U. S. entry into World War II had greatly improved the economy. Agriculture continues to predominate as the largest revenue-producing industry in eastern Colorado.

The BLM conducted a literature review of records in the BLM-RGFO field office and database, and reviewed relevant information in the Compass database maintained by the Colorado Office of Archaeology and Historic Preservation. The records indicate that seventeen inventories for cultural resources have been completed on the proposed lease parcels. The 756 acres included in the inventories represents .007% of the total proposed acreage. Of the twenty phenomena (sites and isolated finds, or “IFs”) recorded during the inventories, ten are either eligible for the National Register of Historic Places (NRHP), or are in a “needs data” status, and are therefore treated as if they are eligible for the NRHP.

The eleven prehistoric phenomena include individual artifacts, open camps, open lithic sites, and a lithic quarry. The remaining nine include historic era railroad grades, roads and reservoirs.

### Environmental Effects

#### Proposed Action

**Direct and Indirect Impacts:** Because the proposed lease sale does not involve ground disturbance, the proposed undertaking will have no effect on historic properties. Any future development of parcels that are purchased as a result of the lease sale will be subject to additional Section 106 compliance, including identification, effects assessment, and, if necessary, resolution of adverse effects. This requirement is outlined in lease stipulation CO-39 that is attached to each lease parcel. This stipulation reads:

"This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O.13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated."

Cumulative Impacts: None anticipated.

Mitigation/Residual Effects: No mitigation required, no residual effects anticipated.

#### No Action Alternative

Direct and Indirect Impacts: No effect on historic properties.

Cumulative Impacts: None.

Mitigation/Residual Effects: None.

#### Public Comment Responses:

**“Trout Creek Ranch is on the NRHP list and the entire ranch has been placed under special protection of the historic society, which prohibits access to the surface of private property for oil and gas extraction.”**

Before it approves any undertaking that involves federal land and/or minerals, BLM must comply with Section 106 of the National Historic Preservation Act (along with regulations under 36 CFR 800). The law and its regulations require the identification of historic properties, assessment of effects that might be caused by the undertaking, and, if necessary, mitigation of identified adverse effects before an undertaking occurs. “Historic properties” include any sites that are listed on, or eligible for, the National Register of Historic Places (NRHP). As described above in the environmental effects section, the lease sale itself is not considered to be an adverse effect. However, if minerals development is proposed for an area of potential effect that includes any historic properties, BLM will evaluate the effect of the development on the historic property. In consultation with the Colorado State Historic Preservation Office and any interested parties (along with the Advisory Council on Historic Preservation, if necessary), BLM will determine necessary mitigation measures and will ensure that they are carried out before a notice to proceed is issued.

**“Are there protection measures employed by BLM to protect cultural resources on private property?”**

Regardless of surface ownership, BLM must comply with Section 106 of the National Historic Preservation Act (and regulations under 36 CFR 800), if federal minerals are involved. When BLM receives an application for permit to drill (APD) on private property, it will not approve the application unless and until Section 106 compliance, as described in the previous paragraph, has been completed.

## TRIBAL AND NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment: The mountains and Plains in Colorado were inhabited by numerous tribes throughout history. Because of their nomadic culture, Plains populations used items that were easily transported and light, and therefore generally left little material evidence of habitation or traditional cultural properties. Although sacred locales are present on the lands

within the RGFO jurisdiction, no known sites are present on any of the parcels included in the lease sale.

A consultation with potentially interested Native American tribes is in process, and will be completed before a decision is made. The BLM has contacted the following tribes: Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes of Oklahoma, Cheyenne River Lakota Tribe, Comanche Tribe of Oklahoma, Crow Creek Sioux, Kiowa Tribe of Oklahoma, Northern Arapaho Tribe, Northern Cheyenne Tribe, Northern Ute Tribe, Oglala Lakota Tribe, Rosebud Sioux Tribe, Shoshone Tribe, Southern Ute Tribe, Standing Rock Lakota Tribe, and the Ute Mountain Ute Tribe.

### Environmental Effects

#### Proposed Action

Direct and Indirect Impacts: None known at present.

Cumulative Impacts: None known at present.

Mitigation/Residual Effects: None necessary, no residual effects expected.

#### No Action Alternative

Direct and Indirect Impacts: None known at present.

Cumulative Impacts: None known at present.

Mitigation/Residual Effects: None necessary, no residual effects expected.

## **PALEONTOLOGICAL RESOURCES**

### Affected Environment:

The project area contains portions of geological formations known to produce scientifically valuable fossils, resulting in Potential Fossil Yield Classifications (PFYCs) between 2 and 5. The formations affected, their known fossil types, and their PFYC values are as follows (Tweto 1979, BLM Colorado State Office PFYC chart):

**Qe Eolian Deposits - Dune Sand and Silt and Peoria Loess** – Bison and various  
PFYC 3, Condition 2

**Kpu Pierre Shale - Upper Unit** - Various invertebrates, including cephalopods, bivalves,  
crustaceans (also coprolites)  
PFYC 3, Condition 2

**Kl, Laramie** - Various dinosaur tracks; ceratopsian, hadrosaur, and carnivorous dinosaurs; and  
some plants  
PFYC 4-5, Condition 1

**To Ogallala** - Various vertebrates, invertebrates, and wood  
PFYC 5, Condition 1

**Twr White River** - Various vertebrates, invertebrates, and wood  
PFYC 4-5, Condition 1

**Kpu Pierre Shale - Upper Unit** - Various invertebrates, including cephalopods, bivalves, crustaceans (also coprolites)  
PFYC 3, Condition 2

**Kcg Carlile Shale, Greenhorn Limestone, Graneros** - Various invertebrates, including forams, bivalves, ammonites, and gastropods, including fish parts  
PFYC 3, Condition 2

**Kn Niobrara** - Various invertebrates, including clams, oysters, baculites, scaphites, burrows, and cephalopods  
PFYC 3, Condition 2

**Th Huerfano** - Various mammals, including rodents, marsupials, primates, carnivores, condylarths, artiodactyls, and perissodactyls (including horses), and other vertebrates, forams and other invertebrates, and wood  
PFYC 4-5, Condition 1

**Tcu Cuchara** - Various mammals, including creodonts, condylarths, pantodonts, carnivores, primates, and perissodactyls  
PFYC 4-5, Condition 1

**TKr Raton** - Various vertebrates and plants  
PFYC 4-5, Condition 1

**Tpc Poison Canyon** - Various vertebrates and plants  
PFYC 4-5, Condition 1

**Kd Dakota Group** - Various invertebrates and plants  
PFYC 3, Condition 2

**Pm Minturn** - Various invertebrates, including brachiopods, trilobites, corals, sponges, fusilinids, gastropods, bivalves and forams; and plants  
PFYC 3, Condition 2

#### Environmental Effects

Proposed Action: Several of the lease sale parcels contains areas mapped as PFYC 3 to PFYC 5 formations and have a moderate to likely potential to impact scientifically valuable fossil resources. Locations for proposed oil or gas well pads, pipelines, and associated infrastructure will be subject to further analysis for the protection of paleontological resources. Areas of new surface disturbance occurring on or adjacent to bedrock (native sedimentary stone) exposures must be inventoried by a BLM permitted paleontologist and approved by the appropriate RGFO specialist during each project's NEPA review. Surface disturbing activities in many areas may require monitoring by a permitted paleontologist.

**Direct and Indirect Impacts:** Potential impacts to fossil localities would be both direct and indirect. Direct impacts to or destruction of fossils would occur from unmitigated activities conducted on formations with high potential for important scientific fossil resources. Indirect impacts would involve damage or loss of fossil resources due to the unauthorized collection of scientifically important fossils by workers or the public due to increased access to fossil localities on or near the lease parcels. Adverse impacts to important fossil resources would be long-term and significant since fossils removed or destroyed would be lost to science. Adverse significant impacts to paleontological resources can be reduced to a negligible level through mitigation of ground disturbing activities. It is possible that the leasing action would have the beneficial impact in that ground disturbance activities might result in the discovery of important fossil resources.

**Cumulative Impacts:** Cumulative impacts to paleontological resources could result from surface disturbing activities associated with leasing, when added to past, present, and reasonably foreseeable future actions, but would not be expected to contribute to cumulative impacts to paleontological resources in the lease area if protective mitigation measures are followed.

**Mitigation/Residual Effects:** Mitigations will be developed during the NEPA review of individual ground disturbing activities. Typically, such mitigations include provisions for the monitoring of ground disturbance by a BLM permitted paleontologist, a requirement for the operator to inform all persons associated with the project of relevant Federal laws protecting fossil resources, and requirements regarding the disclosure of inadvertent fossil discoveries during construction or operation to the RGFO.

Most of the parcels analyzed contain PFYC 3 to PFYC 5 lands; these parcels are subject to Exhibit CO-29 to alert lessee of potential requirements to protect paleontological values.

**No Action Alternative:** Under the no action alternative the proposed parcels will not be leased and therefore there would be no impacts.

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

#### References:

Tweto, Ogden. 1979. Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

## VISUAL RESOURCES

**Affected Environment:** Visual Resource Management (VRM) classes along with the corresponding VRM Objectives were established in the Royal Gorge Field Office with the approval of the Royal Gorge Resource Area Resource Management Plan (RMP) and the Northeast RMP. Visual Resource Management objectives corresponding to the various management classes provide standards for analyzing and evaluating proposed projects. Projects are evaluated using the Contract Rating System to determine if it meets VRM objectives established by the RMP.

The VRM classes established for the project area includes Class II, III, & IV. The table below identifies the parcel # and the corresponding VRM class.

The objective for these Classes are as follows:

The objective of Class II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The objective of Class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

The objective of Class IV is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

### Environmental Effects

#### Proposed Action

**Direct and Indirect Impacts:** Any facilities installed such as condensate and produced water or oil storage tanks would provide some contrast with the landscape and have impacts to visual resources. The extent of this contrast depends upon a number of factors including height of facilities, color, and distance from Key Observation Points (KOPs) such as highways or recreation facilities. The construction of access roads, well pads, and other ancillary facilities would also slightly modify the characteristic landscape creating contrasts and have impacts to visual resources. At the time of the Application for Permit to Drill (APD) Conditions of Approval (COA) as determined by the Authorized Officer (AO) would address the appropriate color, location, and height of facilities as well as the location of roads and well pads to a certain extent to reduce visual impacts and better blend the facility with the landscape. In VMR Class II areas (parcel ID# 5941, 5994, 5996 & 5998) a No Surface Occupancy stipulation would be placed to avoid impacts to visual resources in these areas. The proposed action would meet VRM class objectives.

**Cumulative Impacts:** None.

**Mitigation/Residual Effects:** Apply Stipulation #RG-16 "No Surface Occupancy to protect steep slopes, soil stability, and visual resource for all areas with Class II management objectives.

#### No Action Alternative

Direct and Indirect Impacts: None.

Cumulative Impacts: None.

Mitigation/Residual Effects: None required.

## ENVIRONMENTAL JUSTICE AND SOCIOECONOMICS

Affected Environment: Executive Order 12898 requires federal agencies to assess projects to “identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” The areas involved in the lease sale are rural in nature, small communities and sparsely populated subdivisions exist within variable distances from the proposed lease parcels and even fewer minority populations.

#### Environmental Effects

Proposed Action: No minority or low income populations would be directly affected in the vicinity of the proposed action. Indirect effects that might result, should the leased land ever go to development, could include effects due to overall employment opportunities related to the oil and gas and service support industry in the region as well as the economic benefits to state and county governments related to royalty payments and severance taxes. Other effects could include the potential for a small increase in transportation, roads and noise disturbance associated with development. These effects would apply to all public land users in the project area.

#### Public Comment Response:

**“Socio-economic impacts to property owners within the Redhill subdivision of South Park, who have small 2-3 acre lots:”**

Parcel 5980: This parcel is located within Park County and a portion of the federal mineral estate underlies the Red Hill subdivision, composed largely of 2-3 acre lots. That portion of the parcel has been deferred until the socio-economic ramifications to the property owners of these small lots can be further analyzed.

## WASTES, HAZARDOUS OR SOLID

Affected Environment: The act of leasing the parcels for oil and gas development will not involve the use and management of petroleum products or hazardous substances. However, these activities will take place at the exploration and development stage. The magnitude and location of potential direct and indirect effects cannot be understood or analyzed until the site-specific APD stage of development.

Current conditions of the property are assumed to be clean and have no evident contamination. With this action, an understanding of what may be required in related future actions may be needed for planning purposes with regards to material and waste management. These are itemized below:

- No hazardous material, as defined by 42 U.S.C. 9601 (which includes materials regulated under CERCLA, RCRA and the Atomic Energy Act, but does not include petroleum or natural gas) should be used, produced, transported or stored on the lands associated with this project. If required, will need to be coordinated with the BLM at that time.
- All Above Ground Storage Tanks will need to have secondary containment and constructed in accordance with standard industry practices or an associated Spill Prevention Control and Countermeasures plan in accordance with State regulations (if applicable).
- If drums are used, secondary containment constructed in accordance with standard industry practices or governing regulations is required. Storage and labeling of drums should be in accordance with recommendations on associated MSDS sheets, to account for chemical characteristics and compatibility.
- Appropriate level of spill kits need to be onsite and in vehicles.
- All spill reporting needs to follow the reporting requirements outlined in NTL-3A.
- No treatment or disposal of wastes on site is allowed.
- All concrete washout water needs to be contained and properly disposed of at a permitted offsite disposal facility.

### Environmental Effects

#### Proposed Action

Direct and Indirect Impacts: None

Cumulative Impacts: This action may lead to future operations that would use some type of chemical or petroleum product. However, if mitigation measures are understood for this action, then future impacts would be limited.

Mitigation/Residual Effects: None

#### No Action Alternative

Direct and Indirect Impacts: None

Cumulative Impacts: None

Mitigation/Residual Effects: None

## **LAND RESOURCES**

### **RECREATION**

Affected Environment: The majority of the parcels identified in the proposed action occur on lands with private surface rights and the BLM does not provide recreation opportunities to the

public. The parcels where the BLM does manage the surface rights occur within the Royal Gorge Extensive Recreation Management Area (ERMA) where the management direction is to provide the general public with a diverse range of generally undeveloped and unconfined recreation opportunities. The parcels occur within isolated tracts of BLM managed lands with limited public access and therefore limited recreation opportunities. These parcels do however contribute to the overall scenic values for an area. Hunting is the primary recreation use for these areas, for hunters that have access through private lands.

### Environmental Effects

#### Proposed Action

Direct and Indirect Impacts: On parcels where the BLM does not manage the surface rights there would be no impact to recreation resources. On parcels which the surface is managed by the BLM impacts to recreation would be minimal due to the limited public access and recreation opportunities available. The Wildlife section of this document further describes the impacts to game species and concludes that the proposed action could displace animals. This could indirectly result in loss of opportunities for hunting if the activities associated with the proposed action displaced animals to private land during the hunting season. This would be more likely on smaller parcels where BLM manages the surface rights. On larger parcels of BLM surface management the loss opportunities would be lessened. The Wildlife; Aquatic section discloses the impacts to fisheries and concludes that the proposed action would limit additional modifications to the watersheds and therefore impacts to fishing opportunities would be severely limited if any. There would be impacts to the visual resources where parcels play a role in an open space and visual context. Impacts to visual resources are addressed in the 'Visual Resources' section of this document.

Cumulative Impacts: None.

Mitigation/Residual Effects: None required.

#### No Action Alternative

Direct and Indirect Impacts: None.

Cumulative Impacts: None.

Mitigation/Residual Effects: None required.

#### Public Comment Responses:

**“Concern over impacts to recreational opportunities such as fishing and hunting.”**

The 'Direct and Indirect Impacts' of the proposed action was modified to better identify the impacts to hunting and fishing associated with the proposed action. Impacts to fishing and hunting are expected to be limited.

## **RANGE MANAGEMENT**

Affected Environment: The nominated parcels occur within several livestock grazing allotments administered by the BLM Royal Gorge Field Office. There are approximately 4,187 surface acres that are within active or unallotted grazing allotments. There may be fences, water developments, and other rangeland improvement projects within the proposed parcels.

#### Environmental Effects

##### Proposed Action

**Direct and Indirect Impacts:** The actual amount of direct and indirect effects to livestock grazing in any given allotment cannot be predicted until the site-specific APD stage of development. Generally there is an initial loss of forage (animal unit month or AUMs) associated with each development related disturbance. The amount of forage loss will vary based on the productivity of the affected ecological site prior to disturbance as well as the amount of the disturbance that is reclaimed and the success of re-vegetation actions. Livestock forage loss will also vary based on the distance of that site from livestock water sources. Areas with steeper topography are used less by livestock so forage losses resulting from development in those areas have less impact on livestock grazing. The forage loss is reduced by 50-60 percent after successful interim reclamation. After successful final reclamation herbaceous forage production will likely be slightly higher than pre-disturbance levels until woody re-vegetation reestablishes.

Rangeland improvements such as fences, corrals, and watering facilities could be impacted by road and pad construction. Placement of facilities near rangeland improvement projects could compromise their usefulness, particularly during the development stage. In addition closeness to water can increase potential for stock to use the pad areas for resting, rubbing, and potential exposure to other drilling related hazards. Livestock might avoid an area during the period of active development due to the increased activity and noise levels.

**Cumulative Impacts:** In general, the proposed action would have little cumulative impacts to the range resource.

**Mitigation/Residual Effects:** Mitigation: Development actions would avoid rangeland improvement projects (e.g., ponds, tanks, waterlines, fences, corrals, cattle-guards, gates etc.) if possible but if they could not be avoided, the project proponent would relocate the facilities to an adjacent BLM designated site and reconstruct them to BLM specifications to maintain their original function and purpose. If fences would be affected by development, the project proponent would install temporary fencing to prevent unwanted livestock movement between allotments or pastures. Long term trend monitoring sites would be avoided if at all possible. The BLM notifies grazing permittees on a site-by-site basis as part of the APD process. Best Management Practices would be incorporated into the COAs during evaluation of a specific project or APD.

##### No Action Alternative

**Direct and Indirect Impacts:** There would be no new impacts to the range management from the No Action Alternative.

**Cumulative Impacts:** None.

Mitigation/Residual Effects: None.

## **LANDS AND REALTY**

Affected Environment: The BLM issues right-of-way (ROW) grants to authorize uses across BLM administered public lands, in accordance with regulations, to help ensure that public lands are managed to benefit the public and to avoid undue or unnecessary degradation. A ROW is required for all uses outside the boundaries of the oil and gas lease (off-lease) for the purpose of on-lease development, regardless of who owns or controls the development.

### Environmental Effects

**Proposed Action:** The level and location of direct, indirect or cumulative effects cannot be predicted until the site-specific APD stage of development. Existing ROWs can be impacted by development, including roads, pipelines, well pads, and utilities. To avoid impacts to existing uses, the applicant would coordinate with the existing ROW holders at the site-specific APD stage of development. As a result of the environmental analysis of the proposed site-specific APDs, locations, methods, and materials used for development facilities may be adjusted to mitigate effects.

**No Action Alternative:** There would be no impacts from the No Action Alternative.

Mitigation/Residual Effects: None.

## **OTHER ELEMENTS:**

### **FOREST MANAGEMENT**

Affected Environment: The proposed lease parcels are located on the Front Range of Colorado. A majority of the proposed lease parcels are non-forested or under private ownership. The parcels listed below are under federal ownership and have timber resources. On the whole, tree species found within these areas are hardy, drought tolerant trees that are well suited to the landscape. Forest management recommendations to ensure optimum tree health include providing adequate space, water, and avoid the wounding of the trees. Generally an overcrowded forest is more susceptible to catastrophic wildfire, insect infestations, and diseases.

In Huerfano County parcels numbers 5996 and 5941 are located on Rough Mountain and Mount Maestas, just east of La Veta Pass. This area has a wide variety of forest types due to changes in aspect and elevation. The dominate forest types found are ponderosa pine, Douglas-fir, Engelmann spruce and lodgepole pine. Other less dominant tree species found in this area are gamble oak, white fir, quaking aspen, limber pine, pinyon pine and juniper. Parcels numbers 5995, 5993 and 5994 are forested BLM lands located southwest of Walsenberg, Colorado. Parcels 5993 and 5995 are low in elevation and have the pinyon pine and juniper forest type.

Parcel 5994 is higher in elevation and is dominated by ponderosa pine with a small component of Douglas-fir.

In Park County parcel number 5979 is located east of Fairplay, Colorado on Reinecher Ridge. The forest types found on this parcel are Engelmann spruce, quaking aspen, and Douglas-fir with a small component of bristlecone pine.

Substantial changes have taken place in the forest condition since the settlement of the Front Range of Colorado. Past logging, cattle grazing and fire suppression have had a huge impact on the existing forest condition and fuel loads within the project area. These forests display the following indicators of poor health; overstocked small diameter trees, moderate to high natural fuel accumulations, limited herbaceous production, an increase in bark beetle activity and a lack of large older trees.

Prior to European settlement wildfires played an important ecological role in maintaining the function and pattern of the vegetation on the landscape throughout the Rocky Mountains. Wildfires reduced natural fuel accumulations, maintained forest health by clearing smaller understory trees, recycled nutrients, maintained meadows and parks, improved wildlife habitats, and assured a diversity of forest age classes by creating early serial habitat for young tree establishment. The past 100 years of wildfire suppression, cattle grazing, timber harvests and the urbanization of the West have interrupted the natural frequency and intensity of wildfires. As a result the forests have become overstocked with numerous small diameter trees, most are the same age and around 100 years old or less. As these smaller trees compete with the larger trees for soil moisture during drought periods the trees become stressed subjecting them to increased risk of bark beetle attack. These small diameter trees also provide a ladder for wildfire to move into the forest crown, a prescription for a catastrophic crown fire. Crown fires are typically the most destructive and difficult to control; pose the greatest risk to growing populations and threaten private property adjacent to these public forests.

Although sometimes viewed by humans as catastrophic, outbreaks of native forest insects are natural events. Native insect outbreaks are only a problem when they conflict with values that humans have for an area (e.g., recreation, wildlife habitat, scenic beauty, wood production or property values). Bark beetle populations are on the rise in forested areas along the Front range of Colorado. The increase in beetle populations is caused by two factors, large areas with susceptible stand conditions (dense stands of trees 8 inches and larger in size) and trees stressed by drought.

### Environmental Effects

**Proposed Action: Direct and Indirect Impacts:** The act of leasing the parcels for oil and gas development would have no direct impact on forest resources; however, impacts can be expected to the forest resources at the exploration and development stage.

**Cumulative Impacts:** Throughout the lease area there are many activities currently occurring, along with historic impacts, which affect forest resources. These activities include: oil and gas development, residential development, grazing, mining and recreation. Every parcel is unique and cumulative impacts will need to be thoroughly addressed in the development and APD stage.

Overall, it is not expected that the leasing and possible future development of the parcels would cause long term degradation of the areas forest resources.

**Mitigation/Residual Effects:** When oil and gas wells are drilled on federally owned lands then the permitted company must purchase the appropriate vegetative permit prior to clearing the trees for access or the well pad. The RGFO forester must be contacted at least 2 weeks in advance in order to estimate the volume of wood being removed.

**No Action Alternative**

**Direct and Indirect Impacts:** If these lands are not leased for oil and gas development, no new impacts to forest resources would occur; however it is likely that development would still continue on adjacent private lands.

**Cumulative Impacts:** None

**Mitigation/Residual Effects:** None

The resources or issues below were dismissed due to their not being present or applicable. If one of these elements are present and need to be brought forth for analysis, follow the instructions after the table

<b>Resource/Issue</b>	<b>Rationale for dismissal</b>
Fire	Not applicable to this action
Law Enforcement	There are no law enforcement issues associated with this action.
Noise	The act of leasing will not result in any significant impacts due to noise or result in any increased noise levels.
Socio-Economics	See Environmental Justice
Wilderness, WSA, ACEC, Wild and Scenic Rivers	None present
Farmlands, Prime And Unique	None present

**CUMULATIVE IMPACTS SUMMARY:**

Cumulative impacts may result from the development of the proposed leases when added to non-project impacts that result from past, present, and reasonably foreseeable future actions. The potential exists for future oil and gas development throughout the Royal Gorge Field Office. Historically, within the area of the RGFO, encompassing the eastern half of Colorado, the vast majority of oil and gas activity has occurred and is occurring on private surface and private minerals, where the federal government has no jurisdiction. This is followed by that activity on private surface with underlying federal minerals (split estate) and lastly by federal surface/federal

minerals. The following table showing the numbers of currently producing wells for each of the eight counties involved in the lease, also in a general sense, reflects the level of historic activity. The largest percentage of these wells is located on private surface/private minerals but impacts from this private development must also be considered when considering cumulative impacts to the environment.

County	Weld	Phillips	Morgan	Huerfano	Bent	Sedgwick	Park	Otero
Producing wells	14,773	64	62	48	30	3	0	0

For the Royal Gorge Field Office relatively very few well development activities have occurred on BLM administered surface when compared to privately owned surface. For public lands, the BLM has records of past projects as well as oil and gas activities that allows for a more thorough assessment of cumulative impacts. The cumulative impacts assessment for development that has occurred on private surface is more problematic since the BLM generally has no knowledge or records of activities, other than oil and gas development, on the private land.

Cumulative impacts to key resources are summarized below.

**Water, Surface and Ground:** Throughout the lease area there are many activities currently occurring, along with historic impacts, which affect water quality. These activities include: oil and gas development, residential development, grazing, mining and recreation. At the 5<sup>th</sup> level watershed scale, the leasing and subsequent development of these parcels would add an additional impact to water resources into the future. Most of this impact would be phased in and lessened as individual wells are completed and older wells are reclaimed. Overall, it is not expected that the leasing and possible future development of the parcels would cause long term degradation of water quality below State standards.

**Threatened, Endangered and Sensitive Species, Terrestrial Wildlife and Migratory Birds:** Throughout the lease area there are many activities currently occurring, along with historic impacts, which affect wildlife resources. These activities include: oil and gas development, residential development, grazing, agriculture, mining and recreation. While the leasing of parcels will not compound these impacts, future oil and gas development may impose deleterious effects. Every parcel is unique and cumulative impacts will need to be thoroughly addressed in the development and APD stage.

**Wetlands and Riparian Zones & Aquatic Wildlife:** Similar to the varying climates across the lease sale landscape, the variation in land use is substantial for the scattered parcels. Land use derived modifications to drainages varies from minimal on parcels such as those near Mt. Maestas to extensive on some of those in the northeast part of the State, that include agricultural modifications such as plowed fields and drainage ways, nearby reservoir affects and other modifications. On certain parcels, post lease development would be intrusive where development would be noticeable disturbance in areas adjacent to riparian or wetland areas. In other locations, development would be masked by extensive agriculture, already modified drainage ways or close proximity to other oil and gas development. Cumulative impact analysis

at the scale of this lease is less meaningful than at the APD stage if a parcel is leased and development plans move forward.

**PERSONS / AGENCIES CONSULTED:** Colorado Division of Wildlife, Colorado State Historic Preservation Office, Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes of Oklahoma, Cheyenne River Lakota Tribe, Comanche Tribe of Oklahoma, Crow Creek Sioux, Kiowa Tribe of Oklahoma, Northern Arapaho Tribe, Northern Cheyenne Tribe, Northern Ute Tribe, Oglala Lakota Tribe, Rosebud Sioux Tribe, Shoshone Tribe, Southern Ute Tribe, Standing Rock Lakota Tribe, and the Ute Mountain Ute Tribe.

Al Trujillo and Celia Greenman from the Colorado Division of Wildlife (CDOW) were consulted. A personal meeting was conducted and several phone conversations with Mr. Trujillo and Ms. Greenman occurred prior to completion of the EA document. A letter dated May 10, 2011 was received by the BLM from CDOW submitting their pre-lease review of parcels up for the November 2011 Oil and Gas Lease Sale. Comments from consultation and the review were incorporated into the EA document if they remained in compliance with Royal Gorge Resource Area management plans.

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Carbyn, L. N., H. J. Armbruster, and C. Mamo. 1994. The silt fox reintroduction program in Canada from 1983 to 1992. Restoration of endangered species. Cambridge University Press, Cambridge.

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Knopf, F. L., and B. J. Miller. 1994. *Charadrius montanus*-Montane, grassland, or bare-ground plover? The Auk 111: 504-506.

Parrish, T. L. 1988. Mountain plover habitat selection in the Powder River Basin, Wyoming. M. S. thesis. Laramie: Zoology and Physiology Department, University Wyoming.

Powell, J. 2003. Distribution, habitat use patterns, and elk response to human disturbance in the Jack Morrow Hills, Wyoming. M.S. thesis, Laramie: Zoology and Physiology Department, University of Wyoming

Sawyer, H., R.M. Nielson, F.G. Lindzey, and L.L. McDonald. 2006. Winter habitat selection of mule deer before and during development of a natural gas field. Journal of Wildlife Management 70: 396-403.

#### **WEBSITES CONSULTED:**

<b>INTERDISCIPLINARY TEAM REVIEW</b>		
<b>NAME</b>	<b>TITLE</b>	<b>AREA OF RESPONSIBILITY</b>
Matt Rustand	Wildlife Biologist	Terrestrial Wildlife, T&E, Migratory Birds
Jeff Williams	Range Management Spec.	Range, Vegetation
Chris Cloninger	Range Management Spec.	Range, Vegetation
John Lamman	Range Management Spec.	Range, Vegetation, Farmland, Weeds
Dave Gilbert	Fisheries Biologist	Aquatic Wildlife, Riparian/Wetlands
Stephanie Carter	Geologist	Minerals, Paleontology, Waste Hazardous or Solid
Melissa Smeins	Geologist	Minerals, Paleontology
John Smeins	Hydrologist	Hydrology, Water Quality/Rights, Soils
Ty Webb	Prescribed Fire Specialist	Air Quality
Tony Mule'	Cadastral Surveyor	Cadastral Survey
Kalem Lenard	Recreation	Recreation, Wilderness, Visual, ACEC, W&S Rivers, LWCs
John Nahomenuk	Recreation, River Manager	Recreation, Wilderness, Visual, ACEC, W&S Rivers, LWCs
Ken Reed	Forester	Forestry
Martin Weimer	NEPA Coordinator	Environmental Justice, Noise, SocioEconomics, Hydrology (in part)
Monica Weimer	Archaeologist	Cultural, Native American
Erin Watkins	Archaeologist	Cultural, Native American
Hugh Wolfe	Realty Specialist	Realty
Steve Cunningham	Law Enforcement Ranger	Law Enforcement

**FONSI**  
**DOI-BLM-CO-200-2011-0057 EA**

Based on review of the EA and the supporting documents, I have determined that the project is not a major federal action and will not have a significant effect on the quality of the human

environment, individually or cumulatively with other actions in the general area. No environmental effects from any alternative assessed or evaluated meet the definition of significance in context or intensity, as defined by 43 CFR 1508.27. Therefore, an environmental impact statement is not required. This finding is based on the context and intensity of the project as described below:

#### RATIONALE:

##### Context:

Oil and gas leasing in the Royal Gorge Field Office includes all those federal fluid mineral resources in Colorado, east of the continental divide. The current lease contains parcels in Park, Huerfano, Weld, Morgan, Sedgwick, Phillips, Otero and Bent Counties, with the largest concentration in Park, Huerfano and Weld Counties. Weld, Morgan, Sedgwick, Phillips, Otero and Bent Counties are eastern Colorado counties that exist as a patchwork of dry land farming and uncultivated short grass prairie. Park County is situated in the mountains to the west and is largely defined by South Park, a high intermontane basin, mostly treeless with the exception of the southern portion of the county and the north-south running ridges in the northern portion. Those parcels in Huerfano County are situated in a front range foothills setting that ranges from a pinyon/juniper environment to a subalpine mixed conifer. The settings of the lease parcels are rural in nature and most are distant from even small communities. Of those counties in the current lease, historically, Weld County has witnessed the greatest oil and gas development followed by Morgan. Bent, Phillips and Huerfano Counties have seen moderate development with Sedgwick, Otero and Park Counties, to date, with only minor development. Implications from recognized benefits and problems associated with oil and gas leasing and development elevate the current action to one of regional significance.

##### Intensity:

**Impacts that may be beneficial and adverse:** There are no direct impacts to resources from the act of leasing. The indirect impacts from leasing would be the potential for future direct impacts from development of those leases at the APD stage. Beneficial impacts would include the potential for development of energy resources that would aid in reducing the nations reliance on foreign oil. Regional or local benefits could include the infusion jobs and economic benefits to local business and governments. Adverse impacts at the development stage could potentially include drilling and production facilities and roads impacting wildlife, vegetation, riparian, cultural and visual resources. Potential impacts to these resources are addressed and mitigated through applying stipulations at the leasing stage and if necessary further mitigations and conditions being applied at the APD and production stage.

**Public health and safety:** Issues involving public health and safety that might arise at the APD and development stage include the industries potential impacts on air quality. The BLM is currently conducting an air analysis for the industries impacts on Front Range air. The lease sale had identified parcels for lease in the 8-hour ozone non-attainment area in Weld County. These parcels have been deferred pending the air analysis (see Attachment B of the EA). Other potential impacts to public health could be contamination at well and facility sites.

Methods of preventing and containing such contamination are imposed on the operators as Conditions of Approval at the APD stage.

**Unique characteristics of the geographic area:** The EA evaluated the area of the proposed action and determined that no unique geographic characteristics such as: Wild and Scenic Rivers, Prime or Unique Farmlands, Areas of Critical Environmental Concern, designated Wilderness areas, or Wilderness Study Areas; were present.

**Degree to which effects are likely to be highly controversial:** There is little disagreement or controversy among reviewers as to the effects of the action on resource values.

**Degree to which effects are highly uncertain or involve unique or unknown risks:** The act of leasing federal minerals for energy development is an established protocol for the BLM and one not normally involving unique or unknown risks.

**Consideration of whether the action may establish a precedent for future actions with significant impacts:** This action does not set a precedent for the act leasing, since the leasing of federal minerals and more specifically fluid minerals has been occurring since the creation of the Mineral Leasing Act.

**Consideration of whether the action is related to other actions with cumulatively significant impacts:** The action of oil and gas leasing itself does not generate cumulative impacts to resource values. The potential development from those leases does have the possibility of generating such impacts. At any given location cumulative impacts from oil and gas development along with other actions will be quite variable and a more accurate assessment is made during the APD stage. Through stipulations applied at the leasing stage and the additional controls of the Conditions of Approval at the APD stage and subsequent complete reclamation of a well site after plugging, cumulative impacts are significantly reduced.

**Scientific, cultural or historical resources, including those listed in or eligible for listing in the National Register of Historic Places:** Because the proposed lease sale does not involve ground disturbance, the proposed undertaking will have no effect on historic properties. Any future development of parcels that are purchased as a result of the lease sale will be subject to additional Section 106 compliance, including identification, effects assessment, and, if necessary, resolution of adverse effects. This requirement is outlined in lease stipulation CO-39 that is attached to each lease parcel.

**Threatened and endangered species and their critical habitat:** The act of leasing the parcels for oil and gas development would have no direct impact on wildlife resources; however, exploration and development of leased parcels would likely impact wildlife. The magnitude and location of direct and indirect effects cannot be predicted until the site-specific APD stage of development. However, the authorization to lease parcels for oil and gas development will likely result in future development at some locations. At this time, the speculative nature of this process does not provide specifics of development; therefore, impacts to terrestrial wildlife from development remain unknown. In the current lease development could potentially affect the following species: Mountain Plover, Swift Fox, Northern Goshawk and Bald Eagle. All lease

parcels are stipulated to potentially contain habitat for threatened, endangered, candidate, or other special status plant or animal (CO-34) providing the opportunity for future restrictions on development if said species and/or its habitat is found on the parcel. Parcels are also stipulated appropriately with provisions within respective RMPs to protect species that are currently listed or deemed sensitive.

**Any effects that threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment:** The proposed action conforms with the provisions of NEPA (U.S.C. 4321-4346) and FLPMA (43 U.S.C. 1701 et seq.) and is compliant with the Clean Water Act and The Clean Air Act, the National Historic Preservation Act, Migratory Bird Treaty Act (MBTA) and the Endangered Species Act.

NAME OF PREPARER: Martin Weimer

SUPERVISORY REVIEW: Jimmy W. Dickerson, Non Renewable Resources Supervisor

NAME OF ENVIRONMENTAL COORDINATOR: Martin Weimer

DATE: 5/16/11

SIGNATURE OF AUTHORIZED OFFICIAL: \_\_\_\_\_  
Keith E. Berger, Field Manager

DATE SIGNED: \_\_\_\_\_

ATTACHMENTS:

- [Attachment A:](#) Pre-EA Parcels Proposed for Lease
- [Attachment B:](#) Parcels Available for Lease with Deferred Portions
- [Attachment C:](#) Parcels Available for Lease with Applied Stipulations
- [Attachment D:](#) Stipulation Exhibits
- [Attachment E:](#) Parcel Maps

**Attachment A**  
**Pre-EA Parcels Proposed for Lease**  
**November 2011 Colorado Competitive Oil and Gas Lease Sale**

**RGFO November Lease Sale**

THE FOLLOWING ACQUIRED LANDS ARE SUBJECT TO FILINGS IN THE MANNER SPECIFIED IN THE APPLICABLE PORTIONS OF THE REGULATIONS IN 43 CFR, SUBPART 3120.

**PARCEL ID: 5997 SERIAL #:**

T. 0290S., R 0670W., 6TH PM

Sec. 18: Lot 3,4;

Sec. 18: E2SW;

Sec. 19: Lot 1;

Sec. 19: E2NW,NESW;

U.S. Interest 50.00%

U.S. Interest 50.00%

U.S. Interest 50.00%

U.S. Interest 50.00%

Huerfano County

Colorado 307.350 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0290S., R 0670W., 6TH PM

Sec. 18: Lot 3,4;

Sec. 18: E2SW;

Sec. 19: Lot 1;

Sec. 19: E2NW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5971 SERIAL #:**

T. 0070N., R 0570W., 6TH PM

Sec. 34: W2;

U.S. Interest 50.00%

Weld County

Colorado 320.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5939 SERIAL #:**

T. 0100N., R 0580W., 6TH PM

Sec. 35: E2;

Sec. 35: EXCL RSVR RW S028802;

U.S. Interest 100.00%

U.S. Interest 100.00%

Weld County  
Colorado 312.510 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit NE-01 to protect reservoir and railroad rights-of-way improvements and to preserve public safety:

T. 0100N., R 0580W., 6TH PM  
Sec. 35: NENE;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5940 SERIAL #:**

T. 0110N., R 0580W., 6TH PM  
Sec. 26: W2;  
Sec. 31: E2;  
Sec. 34: W2W2;

U.S. Interest 100.00%  
U.S. Interest 100.00%  
U.S. Interest 100.00%

Weld County  
Colorado 800.000 Acres

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0110N., R 0580W., 6TH PM  
Sec. 31: E2;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5879 SERIAL #:**

T. 0040N., R 0600W., 6TH PM  
Sec. 19: E2NE;

U.S. Interest 50.00%

Morgan County  
Colorado 80.000 Acres

The following lands are subject to Exhibit CO-17 to protect white pelican nesting and feeding habitat:

T. 0040N., R 0600W., 6TH PM  
Sec. 19: E2NE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5908 SERIAL #:**

T. 0210S., R 0480W., 6TH PM

Sec. 30: Lot 3,4;

Sec. 30: E2SW,SE;

Bent County

Colorado 303.690 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5964 SERIAL #:**

T. 0210S., R 0490W., 6TH PM

Sec. 17: ALL;

Sec. 23: E2NE;

Sec. 26: NENE;

Sec. 27: W2SW;

Sec. 28: E2;

Sec. 31: Lot 3;

Sec. 31: N2SE,SESE;

Sec. 32: W2SW;

Sec. 34: W2NW,SW;

Bent County

Colorado 1617.120 Acres

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0210S., R 0490W., 6TH PM

Sec. 17: E2NE,NESE;

Sec. 23: SENE;

Sec. 26: NENE;

Sec. 28: NENE,S2NE,NWSE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM;BLM; CCDO: RGRA

**PARCEL ID: 5972 SERIAL #:**

T. 0260S., R 0560W., 6TH PM

Sec. 11: W2,SE;

Sec. 14: W2;

Sec. 24: N2;

Sec. 27: NENW;

Otero County

Colorado 1160.000 Acres

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0260S., R 0560W., 6TH PM

Sec. 11: W2W2,SENW,NESW,E2SE;

Sec. 14: N2NW,SENW,SW;

Sec. 24: NE,NENW,SWNW;

Sec. 27: NENW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5993 SERIAL #:**

T. 0290S., R 0670W., 6TH PM

Sec. 15: W2NE,NW,W2SW;

Sec. 22: NWNW;

Sec. 30: Lot 1,2;

Huerfano County

Colorado 432.080 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0290S., R 0670W., 6TH PM

Sec. 15: SWNE,NWNW,SENW,SWSW;

Sec. 22: NWNW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5994 SERIAL #:**

T. 0300S., R 0670W., 6TH PM  
Sec. 9: SESE;  
Sec. 10: NESW;  
Sec. 18: Lot 4;  
Sec. 18: SESW,E2SE;

Huerfano County  
Colorado 237.810 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0300S., R 0670W., 6TH PM  
Sec. 9: SESE;  
Sec. 10: NESW;

The following lands are subject to Exhibit CO-10 to protect elk calving:

T. 0300S., R 0670W., 6TH PM  
Sec. 18: Lot 4;  
Sec. 18: SESW,NESE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0300S., R 0670W., 6TH PM  
Sec. 10: NESW;  
Sec. 18: SESW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-05 to protect raptor habitat.

BLM; CCDO: RGRA

**PARCEL ID: 5998 SERIAL #:**

T. 0300S., R 0670W., 6TH PM  
Sec. 6: Lot 7;  
Sec. 6: SESW;  
Sec. 7: Lot 1,2;  
Sec. 7: NENE,S2NE;  
Sec. 8: S2NW;  
Sec. 18: NWNE;  
Sec. 25: SWNE,S2NW,SW;  
Sec. 26: SENE;

Huerfano County  
Colorado 710.240 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0300S., R 0670W., 6TH PM

Sec. 6: Lot 7;  
Sec. 6: SESW;  
Sec. 7: Lot 1,2;  
Sec. 7: NENE,S2NE;  
Sec. 8: S2NW;

The following lands are subject to Exhibit CO-10 to protect elk calving:

T. 0300S., R 0670W., 6TH PM

Sec. 7: Lot 2;  
Sec. 7: S2NE;  
Sec. 8: S2NW;  
Sec. 18: NWNE;  
Sec. 25: SWNE,SENE,NESW;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0300S., R 0670W., 6TH PM

Sec. 7: Lot 2;  
Sec. 7: NENE,SWNE;  
Sec. 8: S2NW;  
Sec. 25: SWNE,SENE,NESW,W2SW;  
Sec. 26: SENE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-05 to protect raptor habitat.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5999 SERIAL #:**

T. 0270S., R 0680W., 6TH PM

Sec. 27: NESW,S2S2;  
Sec. 28: S2SE;  
Sec. 33: E2E2;  
Sec. 34: SWNE,E2NW;  
Sec. 34: N2SW,SWSW,NWSE;

Huerfano County  
Colorado 720.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0270S., R 0680W., 6TH PM  
Sec. 27: SESE;  
Sec. 28: SWSE;  
Sec. 33: NENE,NESE;  
Sec. 34: SWNE,N2SW,NWSE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6036 SERIAL #:**

T. 0270S., R 0680W., 6TH PM  
Sec. 26: SWNE,SENE,SW,NWSE;  
Sec. 27: NESE;  
Sec. 34: N2NE,SENE,W2NW;  
Sec. 35: NWNE,N2NW;

Huerfano County  
Colorado 640.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6000 SERIAL #:**

T. 0280S., R 0680W., 6TH PM  
Sec. 3: Lot 4;  
Sec. 4: Lot 1;

Huerfano County  
Colorado 80.310 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5995 SERIAL #:**

T. 0290S., R 0680W., 6TH PM  
Sec. 25: SENE,NESE;

Huerfano County  
Colorado 80.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5941 SERIAL #:**

T. 0280S., R 0690W., 6TH PM  
Sec. 28: NWNE,N2NW;  
Sec. 29: S2NE,N2NW,SE,SE;  
Sec. 31: NESE;  
Sec. 32: W2NE,N2SW;  
Sec. 34: N2,NESW,SE;

Huerfano County  
Colorado 1200.000 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0280S., R 0690W., 6TH PM  
Sec. 28: NWNE,NENW;  
Sec. 29: S2SE;  
Sec. 31: NESE;  
Sec. 32: W2NE,N2SW;  
Sec. 34: N2,NESW,SE;

The following lands are subject to Exhibit CO-12 to protect Rocky Mountain bighorn sheep lambing:

T. 0280S., R 0690W., 6TH PM  
Sec. 29: N2NW,SE,SE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0280S., R 0690W., 6TH PM  
Sec. 28: NWNW;  
Sec. 29: NWNW;  
Sec. 31: NESE;  
Sec. 32: N2SW;  
Sec. 34: S2NE,SWNW,N2SE,SESE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM;BLM; CCDO: RGRA

**PARCEL ID: 5996 SERIAL #:**

T. 0280S., R 0690W., 6TH PM

Sec. 6: SESW,W2SE;  
Sec. 7: Lot 2;  
Sec. 7: W2NE,E2NW;  
Sec. 8: SWSE;  
Sec. 17: NWNE;  
Sec. 18: Lot 2;  
Sec. 18: SWNE,SENW;  
Sec. 19: Lot 1-4;  
Sec. 19: W2NE,SENE,E2W2,SE;  
Sec. 29: SWNW,SW;  
Sec. 30: Lot 1-4;  
Sec. 30: E2,E2W2;  
Sec. 31: NE;  
Sec. 32: NENE,NW,NWSE;

Huerfano County

Colorado 2295.060 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0280S., R 0690W., 6TH PM

Sec. 6: SESW,W2SE;  
Sec. 7: Lot 2;  
Sec. 7: W2NE,E2NW;  
Sec. 31: NE;  
Sec. 32: NENE,NW,NWSE;

The following lands are subject to Exhibit CO-10 to protect elk calving:

T. 0280S., R 0690W., 6TH PM

Sec. 6: SESW,W2SE;  
Sec. 7: Lot 2;  
Sec. 7: W2NE,E2NW;  
Sec. 8: SWSE;  
Sec. 17: NWNE;  
Sec. 18: Lot 2;  
Sec. 18: SWNE,SENW;

The following lands are subject to Exhibit CO-12 to protect Rocky Mountain bighorn sheep lambing:

T. 0280S., R 0690W., 6TH PM

Sec. 19: Lot 1-4;  
Sec. 19: W2NE,SENE,E2W2,SE;  
Sec. 29: SWNW,N2SW;  
Sec. 30: Lot 1,2;  
Sec. 30: NE,E2NW,N2SE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0280S., R 0690W., 6TH PM  
Sec. 6: SESW, W2SE;  
Sec. 7: Lot 2;  
Sec. 7: NWNE, E2NW;  
Sec. 17: NWNE;  
Sec. 18: Lot 2;  
Sec. 18: SENW;  
Sec. 19: Lot 1, 3, 4;  
Sec. 19: W2NE, SENE, NENW;  
Sec. 19: NESW, SE;  
Sec. 29: SWNW, SWSW;  
Sec. 30: Lot 3, 4;  
Sec. 30: NE, NENW;  
Sec. 30: E2SW, W2SE, SESE;  
Sec. 31: NE;  
Sec. 32: W2NW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 6001 SERIAL #:**

T. 0280S., R 0690W., 6TH PM  
Sec. 6: Lot 4, 5;  
Sec. 20: NE, NENW;

Huerfano County  
Colorado 267.440 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0280S., R 0690W., 6TH PM  
Sec. 6: Lot 4, 5;  
Sec. 20: N2NE, SENE;

All lands are subject to Exhibit CO-10 to protect elk calving.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0280S., R 0690W., 6TH PM  
Sec. 20: SENE, NENW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5943 SERIAL #:**

T. 0290S., R 0690W., 6TH PM  
Sec. 1: NESE;

Huerfano County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6002 SERIAL #:**

T. 0260S., R 0700W., 6TH PM  
Sec. 12: W2E2,W2;  
Sec. 15: S2N2,N2S2;  
Sec. 17: S2NE;

Huerfano County  
Colorado 880.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0260S., R 0700W., 6TH PM  
Sec. 12: SWNE,W2,W2SE;  
Sec. 15: S2NE,SWNW,NESW,NWSE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5973 SERIAL #:**

T. 0110S., R 0740W., 6TH PM  
Sec. 20: N2,SW;  
Sec. 21: E2;  
Sec. 28: W2,SE;  
Sec. 29: E2;  
Sec. 30: Lot 1,2;  
Sec. 30: W2NE,E2NW,SE;

Park County  
Colorado 1999.670 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0110S., R 0740W., 6TH PM  
Sec. 20: SW;  
Sec. 21: S2NE,SE;  
Sec. 28: W2,SE;  
Sec. 29: E2;  
Sec. 30: Lot 1,2;  
Sec. 30: W2NE,E2NW,SE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0110S., R 0740W., 6TH PM  
Sec. 20: N2NE,SENE,N2NW,SESW;  
Sec. 21: NENE,S2NE,SE;  
Sec. 28: W2SW,SESW;  
Sec. 29: S2SE;  
Sec. 30: Lot 2;  
Sec. 30: NWNE,E2NW,SE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5974 SERIAL #:**

T. 0110S., R 0740W., 6TH PM  
Sec. 31: Lot 3,4;  
Sec. 31: E2,E2SW;  
Sec. 32: ALL;  
Sec. 33: N2,SE;  
Sec. 34: ALL;

Park County  
Colorado 2240.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0110S., R 0740W., 6TH PM  
Sec. 31: W2E2,SESE;  
Sec. 32: E2SW,SWSE;  
Sec. 32: E2NE,W2NW,SENE;  
Sec. 33: NESE;  
Sec. 33: W2NE,SENE,NENW,SWNW;  
Sec. 34: W2SW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5916 SERIAL #:**

T. 0120S., R 0740W., 6TH PM  
Sec. 22: SWSW;  
Sec. 27: SWNE;  
Sec. 29: N2N2;  
Sec. 33: NESW,SWSE;  
Sec. 35: W2SW;

Park County  
Colorado 400.000 Acres

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0120S., R 0740W., 6TH PM  
Sec. 33: NESW,SWSE;  
Sec. 35: NWSW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5975 SERIAL #:**

T. 0120S., R 0740W., 6TH PM  
Sec. 3: Lot 1-4;  
Sec. 3: S2;  
Sec. 4: Lot 1,2,4;  
Sec. 4: SW,N2SE,SWSE;  
Sec. 5: Lot 1-4;  
Sec. 5: SE;  
Sec. 6: Lot 1;  
Sec. 10: S2N2,N2S2;  
Sec. 11: N2NE,NW,N2S2;

Park County  
Colorado 1919.910 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0120S., R 0740W., 6TH PM  
Sec. 3: Lot 1-4;  
Sec. 3: S2;  
Sec. 4: Lot 1,2,4;  
Sec. 4: SW,N2SE,SWSE;  
Sec. 5: Lot 1-4;  
Sec. 5: SE;  
Sec. 6: Lot 1;

Sec. 10: S2NE,NESE;  
Sec. 11: N2NE,NW,N2S2;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0120S., R 0740W., 6TH PM  
Sec. 3: Lot 4;  
Sec. 3: W2SW;  
Sec. 4: Lot 4;  
Sec. 4: E2SW,NESE,SWSE;  
Sec. 5: Lot 1,2;  
Sec. 5: NESE;  
Sec. 10: SENW,NESW;  
Sec. 11: N2NE,NESE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5976 SERIAL #:**

T. 0120S., R 0740W., 6TH PM  
Sec. 14: E2NE,NESE;  
Sec. 19: Lot 1-4;  
Sec. 19: S2NE,E2W2,SE;  
Sec. 23: S2NE,N2SE;  
Sec. 24: NWNW,SESW,S2SE;  
Sec. 25: NE,NENW,N2SE;  
Sec. 29: SE;

Park County  
Colorado 1457.840 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0120S., R 0740W., 6TH PM  
Sec. 14: E2NE;

The following lands are subject to Exhibit CO-17 to protect white pelican nesting and feeding habitat:

T. 0120S., R 0740W., 6TH PM  
Sec. 25: SWNE,N2SE;

The following lands are subject to Exhibit CO-23 to protect bald eagle winter roost sites:

T. 0120S., R 0740W., 6TH PM  
Sec. 25: SENE,NESE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0120S., R 0740W., 6TH PM  
Sec. 19: Lot 1,4;  
Sec. 19: E2SW,W2SE,SESE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5977 SERIAL #:**

T. 0110S., R 0750W., 6TH PM  
Sec. 33: NE,NESE;  
Sec. 34: N2,N2SW,NWSE;  
Sec. 35: ALL;

Park County  
Colorado 1280.000 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0110S., R 0750W., 6TH PM  
Sec. 33: NE,NESE;  
Sec. 34: NENE,S2N2,N2SW,NWSE;  
Sec. 35: ALL;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0110S., R 0750W., 6TH PM  
Sec. 33: E2NE;  
Sec. 34: N2SW,NWSE;  
Sec. 34: E2NE,NENW,S2NW;  
Sec. 35: SENE,E2W2,NWNW,E2SE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5917 SERIAL #:**

T. 0120S., R 0750W., 6TH PM  
Sec. 13: SWSW;

Park County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5978 SERIAL #:**

T. 0120S., R 0750W., 6TH PM

Sec. 1: SE;  
Sec. 2: Lot 1-4;  
Sec. 2: S2N2;  
Sec. 3: Lot 1-4;  
Sec. 3: S2N2,N2SE,SESE;  
Sec. 10: E2NE;  
Sec. 12: N2,N2S2;

Park County  
Colorado 1300.770 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0120S., R 0750W., 6TH PM

Sec. 1: SE;  
Sec. 2: Lot 1-4;  
Sec. 2: S2N2;  
Sec. 3: Lot 1-4;  
Sec. 3: S2N2,N2SE,SESE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5979 SERIAL #:**

T. 0090S., R 0760W., 6TH PM

Sec. 8: N2NW;  
Sec. 17: E2,E2NW;  
Sec. 19: E2;  
Sec. 20: SENE,SENW,NESW,S2SW;  
Sec. 29: W2;  
Sec. 30: N2SE;  
Sec. 31: NE;

Park County  
Colorado 1560.000 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0090S., R 0760W., 6TH PM  
Sec. 8: N2NW;  
Sec. 20: SENE,SENW,E2SW;  
Sec. 29: E2NW,NESW;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0090S., R 0760W., 6TH PM  
Sec. 17: N2NE,W2SE,SESE;  
Sec. 19: SENE,N2SE;  
Sec. 29: S2NW;  
Sec. 30: N2SE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5980 SERIAL #:**

T. 0100S., R 0760W., 6TH PM  
Sec. 5: Lot 2;  
Sec. 5: S2NW,SW;  
Sec. 6: Lot 1;  
Sec. 6: S2NE;  
Sec. 19: Lot 1;  
Sec. 19: NWNE,E2NW;  
Sec. 28: NW,N2SW;  
Sec. 32: E2NW;

Park County  
Colorado 1002.990 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0100S., R 0760W., 6TH PM  
Sec. 19: NWNE;  
Sec. 28: NWSW;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0100S., R 0760W., 6TH PM  
Sec. 5: Lot 2;

Sec. 5: S2NW;  
Sec. 6: Lot 1;  
Sec. 6: S2NE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5981 SERIAL #:**

T. 0110S., R 0760W., 6TH PM

Sec. 17: SWSW;  
Sec. 18: S2SE;  
Sec. 19: NE,SE,SENW,NESW,N2SE;  
Sec. 20: NESW,NESE,S2SE;  
Sec. 28: W2NW;  
Sec. 29: S2NW;  
Sec. 32: E2;  
Sec. 33: ALL;  
Sec. 34: SENE,S2;

Park County  
Colorado 2080.000 Acres

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0110S., R 0760W., 6TH PM

Sec. 17: SWSW;  
Sec. 19: SWNE,SENW,N2SE;  
Sec. 28: W2NW;  
Sec. 32: SWSE;  
Sec. 33: SESE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6040 SERIAL #:**

T. 0080N., R 0440W., 6TH PM

Sec. 22: S2;

Phillips County  
Colorado 320.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5928 SERIAL #:**

T. 0100N., R 0470W., 6TH PM  
Sec. 17: NESW;

Sedgwick County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-02 to protect grouse dancing grounds.

All lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5919 SERIAL #:**

T. 0110N., R 0560W., 6TH PM  
Sec. 17: SENW,SESW;  
Sec. 19: NENE,SWNE,SENW;

Weld County  
Colorado 200.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5970 SERIAL #:**

T. 0070N., R 0570W., 6TH PM  
Sec. 26: NWNW;

Weld County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5895 SERIAL #:**

T. 0090N., R 0570W., 6TH PM  
Sec. 28: S2NE;  
Sec. 33: NWSW,NWSE;

Weld County  
Colorado 160.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5920 SERIAL #:**

T. 0100N., R 0570W., 6TH PM  
Sec. 6: Lot 2,3;  
Sec. 9: S2SW;  
Sec. 10: SWNW;  
Sec. 15: NWNE,NESE;

Weld County  
Colorado 280.720 Acres

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0100N., R 0570W., 6TH PM  
Sec. 6: Lot 2,3;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5933 SERIAL #:**

T. 0110N., R 0570W., 6TH PM  
Sec. 13: SWSW;  
Sec. 19: W2NE;  
Sec. 23: E2SE;  
Sec. 24: W2NW,SENE,SW,N2SE;  
Sec. 25: SWNW;  
Sec. 26: SENE,N2SE;  
Sec. 27: W2NW,NWSW;  
Sec. 28: NESW;  
Sec. 30: Lot 1-4;

Sec. 30: SENW,E2SW;  
Sec. 31: Lot 1-4;  
Sec. 31: SESW;  
Sec. 33: SWNW,W2SW,SESW;

Weld County  
Colorado 1491.400 Acres

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0110N., R 0570W., 6TH PM  
Sec. 24: W2NW,SENW,N2SE,SW;  
Sec. 25: SWNW;  
Sec. 30: Lot 1-3;  
Sec. 30: SENW,E2SW;  
Sec. 31: Lot 1-4;  
Sec. 31: SESW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5897 SERIAL #:**

T. 0100N., R 0580W., 6TH PM  
Sec. 4: SESE;  
Sec. 12: S2;  
Sec. 13: W2;  
Sec. 23: SWNE,W2SW;

Weld County  
Colorado 800.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5898 SERIAL #:**

T. 0110N., R 0580W., 6TH PM  
Sec. 25: E2SE;

Weld County  
Colorado 80.000 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5896 SERIAL #:**

T. 0090N., R 0590W., 6TH PM  
Sec. 21: E2SW,SE;

Weld County  
Colorado 240.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5918 SERIAL #:**

T. 0100N., R 0590W., 6TH PM  
Sec. 24: SWNE,E2NW;  
Sec. 25: W2;

Weld County  
Colorado 440.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5878 SERIAL #:**

T. 0030N., R 0600W., 6TH PM  
Sec. 19: Lot 3,4;  
Sec. 19: E2SW,SE, EXCL;  
Sec. 19: RR R/W COD 029302;  
Sec. 33: W2, EXCL RESVR/DITCH;  
Sec. 33: R/W COD 017789;

Morgan County  
Colorado 624.440 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0030N., R 0600W., 6TH PM  
Sec. 19: Lot 3,4;

Sec. 19: E2SW,SE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit NE-01 to protect reservoir and railroad rights-of-way improvements and to preserve public safety:

T. 0030N., R 0600W., 6TH PM  
Sec. 33: NWNW,S2SW;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5880 SERIAL #:**

T. 0040N., R 0600W., 6TH PM  
Sec. 30: RESVR R/W COD 013729;  
Sec. 30: SESW,S2SE, EXCL;  
Sec. 31: RESVR R/W COD 013729;  
Sec. 31: E2W2, EXCL;

Morgan County  
Colorado 114.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM;BLM; CCDO: RGRA

**PARCEL ID: 5881 SERIAL #:**

T. 0050N., R 0600W., 6TH PM  
Sec. 12: NESW;

Morgan County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5882 SERIAL #:**

T. 0050N., R 0610W., 6TH PM  
Sec. 30: E2SW, EXCL;

Sec. 30: RESVR R/W COC 123882;

Weld County  
Colorado 21.610 Acres

All lands are subject to Exhibit CO-04 to protect bald eagle roosts or nests.

All lands are subject to Exhibit CO-17 to protect white pelican nesting and feeding habitat.

All lands are subject to Exhibit CO-23 to protect bald eagle winter roost sites.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit NE-01 to protect reservoir and railroad rights-of-way improvements and to preserve public safety.

All lands are subject to Exhibit NE-02 to protect riparian and wildlife values near reservoirs and rivers.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5883 SERIAL #:**

T. 0060N., R 0610W., 6TH PM  
Sec. 27: W2W2;

Weld County  
Colorado 160.000 Acres

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6065 SERIAL #:**

T. 0110N., R 0650W., 6TH PM  
Sec. 2: N2N2;  
Sec. 2: S2N2,S2;  
Sec. 6: W2W2;  
Sec. 6: E2SW,W2SE;  
Sec. 8: S2NW,SW,W2SE;

Weld County  
Colorado 1269.210 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0110N., R 0650W., 6TH PM

Sec. 2: S2N2,S2;  
Sec. 6: E2SW,W2SE;  
Sec. 8: S2NW,SW,W2SE;

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0110N., R 0650W., 6TH PM  
Sec. 6: E2SW,W2SE;  
Sec. 8: S2NW,SW,W2SE;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0110N., R 0650W., 6TH PM  
Sec. 6: E2SW,W2SE;  
Sec. 8: S2NW,SW,W2SE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**Attachment B**  
**Parcels Available for Lease with Deferred Portions**  
**Nov 2011 - Colorado Competitive Oil & Gas Lease Sale**

**Available Portion of Parcel ID: 5916**

T. 0120S., R 0740W., 6TH PM  
Sec. 29: N2N2;

**Deferred portion of Parcel ID: 5916**

T. 0120S., R 0740W., 6TH PM  
Sec. 22: SWSW;  
Sec. 27: SWNE;  
Sec. 33: NESW,SWSE;  
Sec. 35: W2SW;

Spinney Reservoir, municipal water source  
(see proposed action)

Park County  
Colorado 240 Acres

**Available Portion of Parcel ID: 5976**

T. 0120S., R 0740W., 6TH PM  
Sec. 19: Lot 3-4;  
Sec. 19: E2SW,SE;  
Sec. 29: SE;

**Deferred portion of Parcel ID: 5976**

T. 0120S., R 0740W., 6TH PM  
Sec. 14: E2NE,NESE;  
Sec. 19: Lot 1-2;  
Sec. 19: E2NW,S2NE;  
Sec. 23: S2NE,N2SE;  
Sec. 24: NWNW,SESW,S2SE;  
Sec. 25: NE,NENW,N2SE;

Spinney Reservoir, municipal water source  
(see proposed action)

Park County  
Colorado 969.88 Acres

**Available Portion of Parcel ID: 5917**

**None**

**Deferred all of Parcel ID: 5917**

T. 0120S., R 0750W., 6TH PM  
Sec. 13: SWSW;

Spinney Reservoir, municipal water source  
(see proposed action)

Park County  
Colorado 40.000 Acres

**Available Portion of Parcel ID: 5975**

T. 0120S., R 0740W., 6TH PM  
Sec. 3: Lot 1-4;  
Sec. 3: S2;  
Sec. 4: Lot 1,2,4;  
Sec. 4: SW,N2SE,SWSE;  
Sec. 5: Lot 1-4;  
Sec. 5: SE;  
Sec. 6: Lot 1;

**Deferred portion of Parcel ID: 5975**

T. 0120S., R 0740W., 6TH PM  
Sec. 10: S2N2,N2S2;  
Sec. 11: N2NE,NW,N2S2;

Spinney Reservoir, municipal water source  
(see proposed action)

Park County  
Colorado 720 Acres

**Available Portion of Parcel ID: 5978**

T. 0120S., R 0750W., 6TH PM  
Sec. 1: SE;  
Sec. 12: N2;

**Deferred portion of Parcel ID: 5978**

T. 0120S., R 0750W., 6TH PM  
Sec. 2: Lot 1-4;  
Sec. 2: S2N2;  
Sec. 3: Lot 1-4;  
Sec. 3: S2N2,N2SE,SESE;  
Sec. 10: E2NE;  
Sec. 12: N2S2

Spinney Reservoir, municipal water source  
(see proposed action)

Park County  
Colorado 820.77 Acres

**Available Portion of Parcel ID: 5980**

T. 0100S., R 0760W., 6TH PM  
Sec. 5: Lot 2;  
Sec. 5: S2NW,SW;  
Sec. 6: Lot 1;  
Sec. 6: S2NE;  
Sec. 28: NW,N2SW;

**Deferred portion of Parcel ID: 5980**

T. 0100S., R 0760W., 6TH PM  
Sec. 19: Lot 1;  
Sec. 19: NWNE,E2NW;  
Sec. 32: E2NW;

Unresolved Red Hill subdivision conflicts  
(see proposed action)

Park County  
Colorado 282.04 Acres

**Available Portion of Parcel ID: 5882**

**None**

**Deferred all of Parcel ID: 5882**

T. 0050N., R 0610W., 6TH PM  
Sec. 30: E2SW, EXCL;  
Sec. 30: RESVR R/W COC 123882

Non-Attainment area, deferred pending air analysis  
(see proposed action)

Weld County  
Colorado 21.610 Acres

**Available Portion of Parcel ID: 5883**

**None**

**Deferred all of Parcel ID: 5883**

T. 0060N., R 0610W., 6TH PM  
Sec. 27: W2W2;

Non-Attainment area, deferred pending air analysis  
(see proposed action)

Weld County  
Colorado 160.000 Acres

**Available Portion of Parcel ID: 5895**

T. 0090N., R 0570W., 6TH PM  
Sec. 28: S2NE;

**Deferred all of Parcel ID: 5895**

T. 0090N., R 0570W., 6TH PM  
Sec. 33: NWSW,NWSE;

Non-Attainment area, deferred pending air analysis  
(see proposed action)

Weld County  
Colorado 160.000 Acres

**Available Portion of Parcel ID: 5970**

**None**

**Deferred all of Parcel ID: 5970**

T. 0070N., R 0570W., 6TH PM  
Sec. 26: NWNW;

Non-Attainment area, deferred pending air analysis  
(see proposed action)

Weld County  
Colorado 40.000 Acres

**Available Portion of Parcel ID: 5971**

None

**Deferred all of Parcel ID: 5971**

T. 0070N., R 0570W., 6TH PM  
Sec. 34: W2;

Non-Attainment area, deferred pending air analysis  
(see proposed action)

Weld County  
Colorado 320.000 Acres

**Attachment C**  
**Parcels Available for Lease with Applied Stipulations**  
**November 2011 - Colorado Competitive Oil & Gas Lease Sale**

**RGFO November Lease Sale**

THE FOLLOWING ACQUIRED LANDS ARE SUBJECT TO FILINGS IN THE MANNER SPECIFIED IN THE APPLICABLE PORTIONS OF THE REGULATIONS IN 43 CFR, SUBPART 3120.

**PARCEL ID: 5997 SERIAL #:**

T. 0290S., R 0670W., 6TH PM

Sec. 18: Lot 3,4;

Sec. 18: E2SW;

Sec. 19: Lot 1;

Sec. 19: E2NW,NESW;

U.S. Interest 50.00%

U.S. Interest 50.00%

U.S. Interest 50.00%

U.S. Interest 50.00%

Huerfano County

Colorado 307.350 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-26 to protect fragile soils.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0290S., R 0670W., 6TH PM

Sec. 18: Lot 3,4;

Sec. 18: E2SW;

Sec. 19: Lot 1;

Sec. 19: E2NW;

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5939 SERIAL #:**

T. 0100N., R 0580W., 6TH PM

Sec. 35: E2;

Sec. 35: EXCL RSVR RW S028802;

U.S. Interest 100.00%

U.S. Interest 100.00%

Weld County

Colorado 312.510 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit NE-01 to protect reservoir and railroad rights-of-way improvements and to preserve public safety:

T. 0100N., R 0580W., 6TH PM  
Sec. 35: NENE;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5940 SERIAL #:**

T. 0110N., R 0580W., 6TH PM  
Sec. 26: W2;  
Sec. 31: E2;  
Sec. 34: W2W2;

U.S. Interest 100.00%  
U.S. Interest 100.00%  
U.S. Interest 100.00%

Weld County  
Colorado 800.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5879 SERIAL #:**

T. 0040N., R 0600W., 6TH PM  
Sec. 19: E2NE;

U.S. Interest 50.00%

Morgan County  
Colorado 80.000 Acres

The following lands are subject to Exhibit CO-17 to protect white pelican nesting and feeding habitat:

T. 0040N., R 0600W., 6TH PM  
Sec. 19: E2NE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5908 SERIAL #:**

T. 0210S., R 0480W., 6TH PM  
Sec. 30: Lot 3,4;  
Sec. 30: E2SW,SE;

Bent County  
Colorado 303.690 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5964 SERIAL #:**

T. 0210S., R 0490W., 6TH PM  
Sec. 17: ALL;  
Sec. 23: E2NE;  
Sec. 26: NENE;  
Sec. 27: W2SW;  
Sec. 28: E2;  
Sec. 31: Lot 3;  
Sec. 31: N2SE,SESE;  
Sec. 32: W2SW;  
Sec. 34: W2NW,SW;

Bent County  
Colorado 1617.120 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0210S., R 0490W., 6TH PM  
Sec. 17: E2NE,NESE;  
Sec. 23: SENE;  
Sec. 26: NENE;  
Sec. 28: NENE,S2NE,NWSE;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0210S., R 0490W., 6TH PM

Sec. 23: SENE;  
Sec. 26: NENE;  
Sec. 27: W2SW;  
Sec. 28: NE;  
Sec. 34: NESW

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM;BLM; CCDO: RGRA

**PARCEL ID: 5972 SERIAL #:**

T. 0260S., R 0560W., 6TH PM

Sec. 11: W2,SE;  
Sec. 14: W2;  
Sec. 24: N2;  
Sec. 27: NENW;

Otero County

Colorado 1160.000 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0260S., R 0560W., 6TH PM

Sec. 11: W2W2,SENW,NESW,E2SE;  
Sec. 14: N2NW,SENW,SW;  
Sec. 24: NE,NENW,SWNW;  
Sec. 27: NENW;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0260S., R 0560W., 6TH PM

Sec. 14: W2NW,SW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-19 to protect mountain plover.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5993 SERIAL #:**

T. 0290S., R 0670W., 6TH PM  
Sec. 15: W2NE,NW,W2SW;  
Sec. 22: NWNW;  
Sec. 30: Lot 1,2;

Huerfano County  
Colorado 432.080 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-26 to protect fragile soils.

All lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0290S., R 0670W., 6TH PM  
Sec. 15: SWNE,NWNW,SENE,SWSW;  
Sec. 22: NWNW;

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5994 SERIAL #:**

T. 0300S., R 0670W., 6TH PM  
Sec. 9: SESE;  
Sec. 10: NESW;  
Sec. 18: Lot 4;  
Sec. 18: SESW,E2SE;

Huerfano County  
Colorado 237.810 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0300S., R 0670W., 6TH PM  
Sec. 9: SESE;  
Sec. 10: NESW;

All lands are subject to Exhibit CO-10 to protect elk calving:

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0300S., R 0670W., 6TH PM  
Sec. 9: SESE;  
Sec. 10: NESW;  
Sec. 18: Lot 4;  
Sec. 18: SESW,E2SE;

The following lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope:

T. 0300S., R 0670W., 6TH PM  
Sec. 9: SESE;  
Sec. 10: NESW;  
Sec. 18: E2SE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0300S., R 0670W., 6TH PM  
Sec. 10: NESW;  
Sec. 18: SESW;

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-05 to protect raptor habitat.

BLM; CCDO: RGRA

**PARCEL ID: 5998 SERIAL #:**

T. 0300S., R 0670W., 6TH PM  
Sec. 6: Lot 7;  
Sec. 6: SESW;  
Sec. 7: Lot 1,2;  
Sec. 7: NENE,S2NE;  
Sec. 8: S2NW;  
Sec. 18: NWNE;  
Sec. 25: SWNE,S2NW,SW;  
Sec. 26: SENE;

Huerfano County  
Colorado 710.240 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat:

All lands are subject to Exhibit CO-10 to protect elk calving:

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0300S., R 0670W., 6TH PM  
Sec. 6: SESW;  
Sec. 7: Lot 1,2;  
Sec. 7: NENE,S2NE;  
Sec. 8: S2NW;  
Sec. 18: NWNE;

The following lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope:

T. 0300S., R 0670W., 6TH PM  
Sec. 6: SESW;  
Sec. 7: Lot 1,2;  
Sec. 7: NENE,S2NE;  
Sec. 8: S2NW;  
Sec. 18: NWNE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0300S., R 0670W., 6TH PM  
Sec. 7: Lot 2;  
Sec. 7: NENE,SWNE;  
Sec. 8: S2NW;  
Sec. 25: SWNE,SENE,NESW,W2SW;  
Sec. 26: SENE;

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-05 to protect raptor habitat.

The following lands are subject to Exhibit RG-16 to protect steep slopes, soil stability, and visual resources.

T. 0300S., R 0670W., 6TH PM  
Sec. 25: SWNE,S2NW,SW;  
Sec. 26: SENE;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5999 SERIAL #:**

T. 0270S., R 0680W., 6TH PM  
Sec. 27: NESW,S2S2;  
Sec. 28: S2SE;  
Sec. 33: E2E2;  
Sec. 34: SWNE,E2NW;  
Sec. 34: N2SW,SWSW,NWSE;

Huerfano County  
Colorado 720.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-12 to protect Rocky Mountain bighorn sheep lambing.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0270S., R 0680W., 6TH PM  
Sec. 27: SESE;  
Sec. 28: SWSE;  
Sec. 33: NENE,NESE;  
Sec. 34: SWNE,N2SW,NWSE;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0270S., R 0680W., 6TH PM  
Sec. 27: NESW,S2S2;  
Sec. 34: SWNE;

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-16 to protect steep slopes, soil stability, and visual resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6036 SERIAL #:**

T. 0270S., R 0680W., 6TH PM  
Sec. 26: SWNE,SENE,SW,NWSE;  
Sec. 27: NESE;  
Sec. 34: N2NE,SENE,W2NW;  
Sec. 35: NWNE,N2NW;

Huerfano County  
Colorado 640.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-12 to protect Rocky Mountain bighorn sheep lambing.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0270S., R 0680W., 6TH PM  
Sec. 26: SWNE,SENE,SW,NWSE;  
Sec. 27: NESE;  
Sec. 35: NWNE;

The following lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope:

T. 0270S., R 0680W., 6TH PM  
Sec. 26: SWNE, SENW, SW, NWSE;  
Sec. 27: NESE;  
Sec. 35: NWNE;

All lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0270S., R 0680W., 6TH PM  
Sec. 26: SWNE, SENW, SW, NWSE;  
Sec. 27: NESE;  
Sec. 34: SENE;  
Sec. 35: NWNE, NENW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit RG-16 to protect steep slopes, soil stability, and visual resources:

T. 0270S., R 0680W., 6TH PM  
Sec. 34: N2NE, SENE, W2NW;  
Sec. 35: N2NW;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6000 SERIAL #:**

T. 0280S., R 0680W., 6TH PM  
Sec. 3: Lot 4;  
Sec. 4: Lot 1;

Huerfano County  
Colorado 80.310 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-12 to protect Rocky Mountain bighorn sheep lambing.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-26 to protect fragile soils.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5995 SERIAL #:**

T. 0290S., R 0680W., 6TH PM  
Sec. 25: SENE,NESE;

Huerfano County  
Colorado 80.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-26 to protect fragile soils.

All lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5941 SERIAL #:**

T. 0280S., R 0690W., 6TH PM  
Sec. 28: NWNE,N2NW;  
Sec. 29: S2NE,N2NW,SE,SE;  
Sec. 31: NESE;  
Sec. 32: W2NE,N2SW;  
Sec. 34: N2,NESW,SE;

Huerfano County  
Colorado 1200.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-12 to protect Rocky Mountain bighorn sheep lambing.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0280S., R 0690W., 6TH PM  
Sec. 34: N2,NESW,SE;

All lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0280S., R 0690W., 6TH PM  
Sec. 28: NWNE,N2NW;  
Sec. 29: S2NE,N2NW,SE,SE;  
Sec. 32: NESW

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit RG-16 to protect steep slopes, soil stability, and visual resources:

T. 0280S., R 0690W., 6TH PM  
Sec. 28: NWNE,N2NW;  
Sec. 29: S2NE,N2NW,SE,SE;  
Sec. 31: NESE;  
Sec. 32: W2NE,N2SW;

PVT/BLM;BLM; CCDO: RGRA

**PARCEL ID: 5996 SERIAL #:**

T. 0280S., R 0690W., 6TH PM  
Sec. 6: SESW,W2SE;  
Sec. 7: Lot 2;  
Sec. 7: W2NE,E2NW;  
Sec. 8: SWSE;  
Sec. 17: NWNE;  
Sec. 18: Lot 2;  
Sec. 18: SWNE,SE,SE;  
Sec. 19: Lot 1-4;  
Sec. 19: W2NE,SE,SE,E2W2,SE;  
Sec. 29: SWNW,SW;  
Sec. 30: Lot 1-4;  
Sec. 30: E2,E2W2;  
Sec. 31: NE;  
Sec. 32: NENE,NW,NWSE;

Huerfano County  
Colorado 2295.060 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

The following lands are subject to Exhibit CO-10 to protect elk calving:

T. 0280S., R 0690W., 6TH PM  
Sec. 6: SESW,W2SE;  
Sec. 7: Lot 2;  
Sec. 7: W2NE,E2NW;  
Sec. 8: SWSE;  
Sec. 17: NWNE;  
Sec. 18: Lot 2;

Sec. 18: SWNE,SENW;

The following lands are subject to Exhibit CO-12 to protect Rocky Mountain bighorn sheep lambing.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0280S., R 0690W., 6TH PM

Sec. 7: SWNE;  
Sec. 8: SWSE;  
Sec. 17: NWNE;  
Sec. 18: SWNE;  
Sec. 32: NWSE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-05 to protect raptor habitat.

All lands are subject to Exhibit RG-16 to protect steep slopes, soil stability, and visual resources.

BLM; CCDO: RGRA

**PARCEL ID: 6001 SERIAL #:**

T. 0280S., R 0690W., 6TH PM

Sec. 6: Lot 4,5;  
Sec. 20: NE,NENW;

Huerfano County  
Colorado 267.440 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-10 to protect elk calving.

All lands are subject to Exhibit CO-12 to protect Rocky Mountain bighorn sheep lambing.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0280S., R 0690W., 6TH PM

Sec. 6: Lot 4,5;

The following lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope:

T. 0280S., R 0690W., 6TH PM

Sec. 6: Lot 4,5;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0280S., R 0690W., 6TH PM  
Sec. 20: SENE,NENW;

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit RG-16 to protect steep slopes, soil stability, and visual resources:

T. 0280S., R 0690W., 6TH PM  
Sec. 20: NE,NENW;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5943 SERIAL #:**

T. 0290S., R 0690W., 6TH PM  
Sec. 1: NESE;

Huerfano County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6002 SERIAL #:**

T. 0260S., R 0700W., 6TH PM  
Sec. 12: W2E2,W2;  
Sec. 15: S2N2,N2S2;  
Sec. 17: S2NE;

Huerfano County  
Colorado 880.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0260S., R 0700W., 6TH PM  
Sec. 12: W2E2,W2;  
Sec. 15: S2N2,N2S2;

The following lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope:

T. 0260S., R 0700W., 6TH PM  
Sec. 12: W2E2,W2;  
Sec. 15: S2N2,N2S2;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0260S., R 0700W., 6TH PM  
Sec. 12: W2;  
Sec. 15: SWNW;

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5973 SERIAL #:**

T. 0110S., R 0740W., 6TH PM  
Sec. 20: N2,SW;  
Sec. 21: E2;  
Sec. 28: W2,SE;  
Sec. 29: E2;  
Sec. 30: Lot 1,2;  
Sec. 30: W2NE,E2NW,SE;

Park County  
Colorado 1999.670 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0110S., R 0740W., 6TH PM  
Sec. 20: SW;  
Sec. 21: S2NE,SE;  
Sec. 28: W2,SE;  
Sec. 29: E2;  
Sec. 30: Lot 1,2;  
Sec. 30: W2NE,E2NW,SE;

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0110S., R 0740W., 6TH PM

Sec. 20: SW;

Sec. 29: NE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0110S., R 0740W., 6TH PM

Sec. 20: N2NE,SENE,N2NW,SESW;

Sec. 21: NENE,S2NE,SE;

Sec. 28: W2SW,SESW;

Sec. 29: S2SE;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0110S., R 0740W., 6TH PM

Sec. 20: N2,SW;

Sec. 21: S2NE,SE;

Sec. 28: W2,SE;

Sec. 29: SE;

Sec. 30: NWSE,NESE,SWNE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-19 to protect mountain plover.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5974 SERIAL #:**

T. 0110S., R 0740W., 6TH PM

Sec. 31: Lot 3,4;

Sec. 31: E2,E2SW;

Sec. 32: ALL;

Sec. 33: N2,SE;

Sec. 34: ALL;

Park County

Colorado 2240.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0110S., R 0740W., 6TH PM

Sec. 34: S2;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0110S., R 0740W., 6TH PM  
Sec. 32: E2SW,SWSE;  
Sec. 32: E2NE,W2NW,SENE;  
Sec. 33: NESE;  
Sec. 33: W2NE,SENE,NENW,SWNW;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0110S., R 0740W., 6TH PM  
Sec. 34: SWSE,NESW

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-19 to protect mountain plover.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5916 SERIAL #:**

T. 0120S., R 0740W., 6TH PM  
Sec. 29: N2N2;

Park County  
Colorado 160.000 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0120S., R 0740W., 6TH PM  
Sec. 29: N2NE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-19 to protect mountain plover.

BLM; CCDO: RGRA

**PARCEL ID: 5975 SERIAL #:**

T. 0120S., R 0740W., 6TH PM  
Sec. 3: Lot 1-4;  
Sec. 3: S2;  
Sec. 4: Lot 1,2,4;  
Sec. 4: SW,N2SE,SWSE;

Sec. 5: Lot 1-4;  
Sec. 5: SE;  
Sec. 6: Lot 1;

Park County  
Colorado 1199.910 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat:

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0120S., R 0740W., 6TH PM  
Sec. 3: Lot 1-2;  
Sec. 3: SE;

The following lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope:

T. 0120S., R 0740W., 6TH PM  
Sec. 3: Lot 1-2;  
Sec. 3: SE;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0120S., R 0740W., 6TH PM  
Sec. 3: Lot 1;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-19 to protect mountain plover.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5976 SERIAL #:**

T. 0120S., R 0740W., 6TH PM  
Sec. 19: Lot 3-4;  
Sec. 19: E2SW,SE;  
Sec. 29: SE;

Park County  
Colorado 487.96 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0120S., R 0740W., 6TH PM  
Sec. 19: Lot 4;

Sec. 19: E2SW,W2SE,SESE;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0120S., R 0740W., 6TH PM  
Sec. 19: Lot 3-4,E2SW,SE;  
Sec. 29: SE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit RG-19 to protect mountain plover.

T. 0120S., R 0740W., 6TH PM  
Sec. 19: Lot 3-4;  
Sec. 29: SE;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5977 SERIAL #:**

T. 0110S., R 0750W., 6TH PM  
Sec. 33: NE,NESE;  
Sec. 34: N2,N2SW,NWSE;  
Sec. 35: ALL;

Park County  
Colorado 1280.000 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0110S., R 0750W., 6TH PM  
Sec. 33: E2SE;  
Sec. 34: NE;  
Sec. 35: NENE;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0110S., R 0750W., 6TH PM  
Sec. 33: E2NE;  
Sec. 34: N2SW,NWSE;  
Sec. 34: E2NE,NENW,S2NW;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0110S., R 0750W., 6TH PM  
Sec. 34: NWSE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-19 to protect mountain plover.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5978 SERIAL #:**

T. 0120S., R 0750W., 6TH PM

Sec. 1: SE;

Sec. 12: N2;

Park County

Colorado 480 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0120S., R 0750W., 6TH PM

Sec. 12: NW,NESW,NWSE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit RG-19 to protect mountain plover.

T. 0120S., R 0750W., 6TH PM

Sec. 1: SE;

Sec. 12: N2;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5979 SERIAL #:**

T. 0090S., R 0760W., 6TH PM

Sec. 8: N2NW;

Sec. 17: E2,E2NW;

Sec. 19: E2;

Sec. 20: SENE,SENW,NESW,S2SW;

Sec. 29: W2;

Sec. 30: N2SE;

Sec. 31: NE;

Park County

Colorado 1560.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat:

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0090S., R 0760W., 6TH PM  
Sec. 17: E2,E2NW;  
Sec. 20: SENE,SENW,NESW,S2SW;  
Sec. 29: W2;

The following lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope:

T. 0090S., R 0760W., 6TH PM  
Sec. 17: E2,E2NW;  
Sec. 20: SENE,SENW,NESW,S2SW;  
Sec. 29: W2;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0090S., R 0760W., 6TH PM  
Sec. 17: N2NE,W2SE,SESE;  
Sec. 19: SENE,N2SE;  
Sec. 29: S2NW;  
Sec. 30: N2SE;  
Sec. 31: NE;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0090S., R 0760W., 6TH PM  
Sec. 19: NESE;  
Sec. 20: SWSW,SESW,NESW  
Sec. 30: N2SE;  
Sec. 30: N2SE;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit RG-19 to protect mountain plover.

T. 0090S., R 0760W., 6TH PM

Sec. 8: N2NW;  
Sec. 19: E2;  
Sec. 20: SWSW;  
Sec. 29: W2;  
Sec. 30: N2SE;  
Sec. 31: NE;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5980 SERIAL #:**

T. 0100S., R 0760W., 6TH PM

Sec. 5: Lot 2;  
Sec. 5: S2NW,SW;  
Sec. 6: Lot 1;  
Sec. 6: S2NE;  
Sec. 28: NW,N2SW;

Park County

Colorado 720.95 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0100S., R 0760W., 6TH PM

Sec. 5: Lot 2;  
Sec. 5: S2NW,SW;  
Sec. 6: Lot 1;  
Sec. 6: S2NE;  
Sec. 28: NW,N2SW;

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0100S., R 0760W., 6TH PM

Sec. 28: NW;

The following lands are subject to Exhibit CO-27 to protect soils on surfaces greater than 40 percent slope:

T. 0100S., R 0760W., 6TH PM

Sec. 28: NW;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0100S., R 0760W., 6TH PM

Sec. 5: Lot 2;  
Sec. 5: S2NW,SW;  
Sec. 6: Lot 1;  
Sec. 6: S2NE;  
Sec. 28: NW,NESW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit RG-19 to protect mountain plover.

T. 0100S., R 0760W., 6TH PM

Sec. 5: Lot 2;  
Sec. 5: S2NW,SW;  
Sec. 6: Lot 1;  
Sec. 6: S2NE;  
Sec. 28: NW,N2SW;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5981 SERIAL #:**

T. 0110S., R 0760W., 6TH PM

Sec. 17: SWSW;  
Sec. 18: S2SE;  
Sec. 19: NE,SENE,NESW,N2SE;  
Sec. 20: NESW,NESE,S2SE;  
Sec. 28: W2NW;  
Sec. 29: S2NW;  
Sec. 32: E2;  
Sec. 33: ALL;  
Sec. 34: SENE,S2;

Park County  
Colorado 2080.000 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-26 to protect fragile soils:

T. 0110S., R 0760W., 6TH PM

Sec. 32: E2;

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation:

T. 0110S., R 0760W., 6TH PM

Sec. 28: SWNW;  
Sec. 34: S2;

The following lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement:

T. 0110S., R 0760W., 6TH PM  
Sec. 19: NESW,N2SE;  
Sec. 29: SWNW;  
Sec. 33: SENE,NESE,SESE,SW,SWNW;  
Sec. 34: SWSW,SESW;

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

All lands are subject to Exhibit RG-19 to protect mountain plover.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6040 SERIAL #:**

T. 0080N., R 0440W., 6TH PM  
Sec. 22: S2;

Phillips County  
Colorado 320.000 Acres

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5928 SERIAL #:**

T. 0100N., R 0470W., 6TH PM  
Sec. 17: NESW;

Sedgwick County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-02 to protect grouse dancing grounds.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-26 to protect fragile soils.

All lands are subject to Exhibit CO-30 to alert lessee of closure period for nesting grouse species.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

BLM; CCDO: RGRA

**PARCEL ID: 5919 SERIAL #:**

T. 0110N., R 0560W., 6TH PM  
Sec. 17: SENW,SESW;  
Sec. 19: NENE,SWNE,SENW;

Weld County  
Colorado 200.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5895 SERIAL #:**

T. 0090N., R 0570W., 6TH PM  
Sec. 28: S2NE;

Weld County  
Colorado 80.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5920 SERIAL #:**

T. 0100N., R 0570W., 6TH PM  
Sec. 6: Lot 2,3;  
Sec. 9: S2SW;  
Sec. 10: SWNW;  
Sec. 15: NWNE,NESE;

Weld County  
Colorado 280.720 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5933 SERIAL #:**

T. 0110N., R 0570W., 6TH PM  
Sec. 13: SWSW;  
Sec. 19: W2NE;  
Sec. 23: E2SE;  
Sec. 24: W2NW,SENE,SW,N2SE;  
Sec. 25: SWNW;  
Sec. 26: SENE,N2SE;  
Sec. 27: W2NW,NWSW;  
Sec. 28: NESW;  
Sec. 30: Lot 1-4;  
Sec. 30: SENE,E2SW;  
Sec. 31: Lot 1-4;  
Sec. 31: SESW;  
Sec. 33: SWNW,W2SW,SESW;

Weld County  
Colorado 1491.400 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5897 SERIAL #:**

T. 0100N., R 0580W., 6TH PM  
Sec. 4: SESE;  
Sec. 12: S2;  
Sec. 13: W2;  
Sec. 23: SWNE, W2SW;

Weld County  
Colorado 800.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit NE-01 to protect reservoir and railroad rights-of-way improvements and to preserve public safety:

T. 0100N., R 0580W., 6TH PM  
Sec. 13: N2NW

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5898 SERIAL #:**

T. 0110N., R 0580W., 6TH PM  
Sec. 25: E2SE;

Weld County  
Colorado 80.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5896 SERIAL #:**

T. 0090N., R 0590W., 6TH PM  
Sec. 21: E2SW,SE;

Weld County  
Colorado 240.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.  
All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5918 SERIAL #:**

T. 0100N., R 0590W., 6TH PM  
Sec. 24: SWNE,E2NW;  
Sec. 25: W2;

Weld County  
Colorado 440.000 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5878 SERIAL #:**

T. 0030N., R 0600W., 6TH PM  
Sec. 19: Lot 3,4;  
Sec. 19: E2SW,SE, EXCL;

Sec. 19: RR R/W COD 029302;  
Sec. 33: W2, EXCL RESVR/DITCH;  
Sec. 33: R/W COD 017789;

Morgan County  
Colorado 624.440 Acres

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

T. 0030N., R 0600W., 6TH PM  
Sec. 33: NWNW;

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit NE-01 to protect reservoir and railroad rights-of-way improvements and to preserve public safety:

T. 0030N., R 0600W., 6TH PM  
Sec. 19: SE  
Sec. 33: NWNW,S2SW;

PVT/BLM; CCDO: RGRA

**PARCEL ID: 5880 SERIAL #:**

T. 0040N., R 0600W., 6TH PM  
Sec. 30: RESVR R/W COD 013729;  
Sec. 30: SESW,S2SE, EXCL;  
Sec. 31: RESVR R/W COD 013729;  
Sec. 31: E2W2, EXCL;

Morgan County  
Colorado 114.000 Acres

All lands are subject to Exhibit CO-04 to protect bald eagle roosts or nests.

All lands are subject to Exhibit CO-09 to protect big game winter habitat.

All lands are subject to Exhibit CO-17 to protect white pelican nesting and feeding habitat.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-23 to protect bald eagle winter roost sites.

The following lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

T. 0040N., R 0600W., 6TH PM  
Sec. 30: SWSE, SESW  
Sec. 31: E2W2

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

The following lands are subject to Exhibit NE-01 to protect reservoir and railroad rights-of-way improvements and to preserve public safety:

T. 0040N., R 0600W., 6TH PM  
Sec. 30: SWSE, SESW  
Sec. 31: E2W2

PVT/BLM;BLM; CCDO: RGRA

**PARCEL ID: 5881 SERIAL #:**

T. 0050N., R 0600W., 6TH PM  
Sec. 12: NESW;

Morgan County  
Colorado 40.000 Acres

All lands are subject to Exhibit CO-04 to protect bald eagle roosts or nests.

All lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**PARCEL ID: 6065 SERIAL #:**

T. 0110N., R 0650W., 6TH PM  
Sec. 2: N2N2;  
Sec. 2: S2N2,S2;  
Sec. 6: W2W2;  
Sec. 6: E2SW,W2SE;  
Sec. 8: S2NW,SW,W2SE;

Weld County  
Colorado 1269.210 Acres

The following lands are subject to Exhibit CO-09 to protect big game winter habitat:

T. 0110N., R 0650W., 6TH PM  
Sec. 2: S2N2,S2;  
Sec. 6: E2SW,W2SE;  
Sec. 8: S2NW,SW,W2SE;

The following lands are subject to Exhibit CO-18 to protect raptor nesting and fledgling habitat:

T. 0110N., R 0650W., 6TH PM  
Sec. 6: E2SW,W2SE;  
Sec. 8: S2NW,SW,W2SE;

All lands are subject to Exhibit CO-26 to protect fragile soils:

All lands are subject to Exhibit CO-28 to protect riparian/wetland vegetation.

All lands are subject to Exhibit CO-29 to alert lessee of Class I and II paleontological area inventory requirement.

All lands are subject to Exhibit CO-34 to alert lessee of potential habitat for a threatened, endangered, candidate, or other special status plant or animal.

All lands are subject to Exhibit CO-39 to protect cultural resources.

PVT/BLM; CCDO: RGRA

**Attachment D**  
**STIPULATION EXHIBITS**

**EXHIBIT CO-02**

Lease Number:

**NO SURFACE OCCUPANCY STIPULATION**

No surface occupancy or use is allowed on the lands described below (legal description or other description):

For the purpose of:

To protect grouse dancing grounds (including sage and mountain sharp-tailed grouse and lesser and greater prairie chickens) within a one-quarter mile radius from the site.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

Exception Criteria:

An exception may be granted depending on current usage of the site or on the geographical relationship to topographic barriers and vegetation screening.

**EXHIBIT CO-04**

Lease Number:

**NO SURFACE OCCUPANCY STIPULATION**

No surface occupancy or use is allowed on the lands described below (legal description or other description):

For the purpose of:

To protect bald eagle roosts and nests within a one-quarter mile radius from the site.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

Exception Criteria:

An exception may be granted to this stipulation depending on the current usage of the site, or the geographical relationship to the topographic barriers and vegetation screening.

Lease Number:

#### EXHIBIT CO-09

Lease Number:

##### TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

December 1 through April 30

For the purpose of (reasons):

To protect big game (mule deer, elk, pronghorn antelope, and bighorn sheep) winter range, including crucial winter habitat and other definable winter range as mapped by the Colorado Division of Wildlife. This may apply to sundry notice that require an environmental analysis.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

Exception Criteria:

An exception may be granted under mild winter conditions for the last 60 days of the closure.

#### EXHIBIT CO-10

Lease Number:

##### TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

April 16 through June 30

For the purpose of (reasons):

To protect elk calving.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

#### EXHIBIT CO-12

Lease Number:

#### TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

May 1 through July 15

For the purpose of (reasons):

To protect Rocky Mountain bighorn sheep lambing.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

#### EXHIBIT CO-17

Lease Number:

#### TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

March 16 through September 30

For the purpose of (reasons):

To protect white pelican nesting and feeding habitat during usage.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

#### EXHIBIT CO-18

Lease Number:

##### TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

February 1 through August 15

For the purpose of (reasons):

To protect raptor (this includes golden eagles, all accipiters, falcons [except the kestrels], all butteos, and owls) nesting and fledgling habitat during usage for one-quarter mile around the nest site.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

Exception Criteria:

Exceptions may be granted during years when the nest site is unoccupied, when occupancy ends by or after May 15, or once the young have fledged and dispersed from the nest.

#### EXHIBIT CO-26

Lease Number:

##### CONTROLLED SURFACE USE STIPULATION

Surface occupancy or use is subject to the following special operating constraints.

For the purpose of:

Protecting fragile soils. Prior to surface disturbance of fragile soils, it must be demonstrated to the Authorized Officer through a plan of development that the following performance objectives will be met.

## Performance Objectives:

- I. Maintain the soil productivity of the site.
- II. Protect off-site areas by preventing accelerated soil erosion (such as land-sliding, gully, drilling, piping, etc.) from occurring.
- III. Protect water quality and quantity of adjacent surface and groundwater sources.
- IV. Select the best possible site for development in order to prevent impacts to the soil and water resources.

Fragile soil areas, in which the performance objective will be enforced, are defined as follows:

- a. Areas rated as highly or severely erodible by wind or water, as described by the Soil Conservation Service in the Area Soil Survey Report or as described by on-site inspection.
- b. Areas with slopes greater than or equal to 35 percent, if they also have one of the following soil characteristics:

- (1) a surface texture that is sand, loamy sand, very fine sandy loam, fine sandy loam, silty clay or clay;
- (2) a depth to bedrock that is less than 20 inches;
- (3) an erosion condition that is rated as poor; or (4) a K factor of greater than

0.32.

## Performance Standards:

- I. All sediments generated from the surface-disturbing activity will be retained on site.
- II. Vehicle use would be limited to existing roads and trails.
- III. All new permanent roads would be built to meet primary road standards (BLM standards) and their location approved by the Authorized Officer. For oil and gas purposes, permanent roads are those used for production.
- IV. All geophysical and geochemical exploration would be conducted by helicopter, horseback, on foot, or from existing roads.
- V. Any sediment control structures, reserve pits, or disposal pits would be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures would have a design life of 25 years.
- VI. Before reserve pits and production pits would be reclaimed, all residue would be removed and trucked off-site to an approved disposal site.

VII. Reclamation of disturbed surfaces would be initiated before November 1 each year.

VIII. All reclamation plans would be approved by the Authorized Officer in advance and might require an increase in the bond.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

#### EXHIBIT CO-27

Lease Number

#### CONTROLLED SURFACE USE STIPULATION

Surface occupancy or use is subject to the following special operating constraints.

For the purpose of:

Protecting soils on surfaces greater than 40 percent slope. Prior to surface disturbance of steep (greater than 40 percent) an engineering/reclamation plan must be approved by the Authorized Officer. Such plans must demonstrate how the following will be accomplished:

- a. Site productivity will be restored.
- b. Surface runoff will be adequately controlled.
- c. Off-site areas will be protected from accelerated erosion such as drilling, gullyng, piping, and mass wasting.
- d. Surface-disturbing activities will not be conducted during extended wet periods.
- e. Construction will not be allowed when soils are frozen.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

#### EXHIBIT CO-28

Lease Number:

## CONTROLLED SURFACE USE STIPULATION

Surface occupancy or use is subject to the following special operating constraints.

On the lands described below:

For the purpose of:

To protect perennial water impoundments and streams, and/or riparian/wetland vegetation by moving oil and gas exploration and development beyond the riparian vegetation zone.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

Exception Criteria:

Exceptions may be granted only if an on-site impact analysis shows no degradation of the resource values.

### EXHIBIT CO-29

Lease Number:

### LEASE NOTICE

An inventory of fossil resources in Class I and II paleontological areas must be performed by an accredited paleontologist approved by the Authorized Officer.

### EXHIBIT CO-34

Lease Number:

## ENDANGERED SPECIES ACT SECTION 7 CONSULTATION STIPULATION

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. The BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed

threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any ground-disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

#### EXHIBIT CO-39

Lease Number:

##### CONTROLLED SURFACE USE STIPULATION

This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O.13007, or other statutes and executive orders. The BLM will not approve any ground disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

#### EXHIBIT RG-05

Lease Number:

##### TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

February 15 through July 31

For the purpose of (reasons):

To protect raptor habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of the stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

## EXHIBIT RG-11

Lease Number:

### NO SURFACE OCCUPANCY STIPULATION

No surface occupancy or use is allowed on the lands described below (legal description or other description):

For the purpose of:

To protect parks and other recreational facilities.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

## EXHIBIT RG-16

Lease Number:

### NO SURFACE OCCUPANCY STIPULATION

No surface occupancy or use is allowed on the lands described below (legal description or other description):

For the purpose of:

To protect steep slopes, soil stability, and visual resources.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

## EXHIBIT RG- 19

RG-19: No activities are allowed in potential mountain plover habitat between April 1 and June 30 if plover are present in the area. The timing mitigation may be waived through a site visit by a biologist if the habitat has low potential for plover. If the area is of high mountain plover value, a survey conducted with an accepted protocol may be required to clear this timing restriction. The visit and clearance must be made during the restricted period at the time of construction, not the year prior to.

## EXHIBIT NE-01

Lease Number:

### NO SURFACE OCCUPANCY STIPULATION

No surface occupancy or use is allowed on the lands described below (legal description or other description):

For the purpose of:

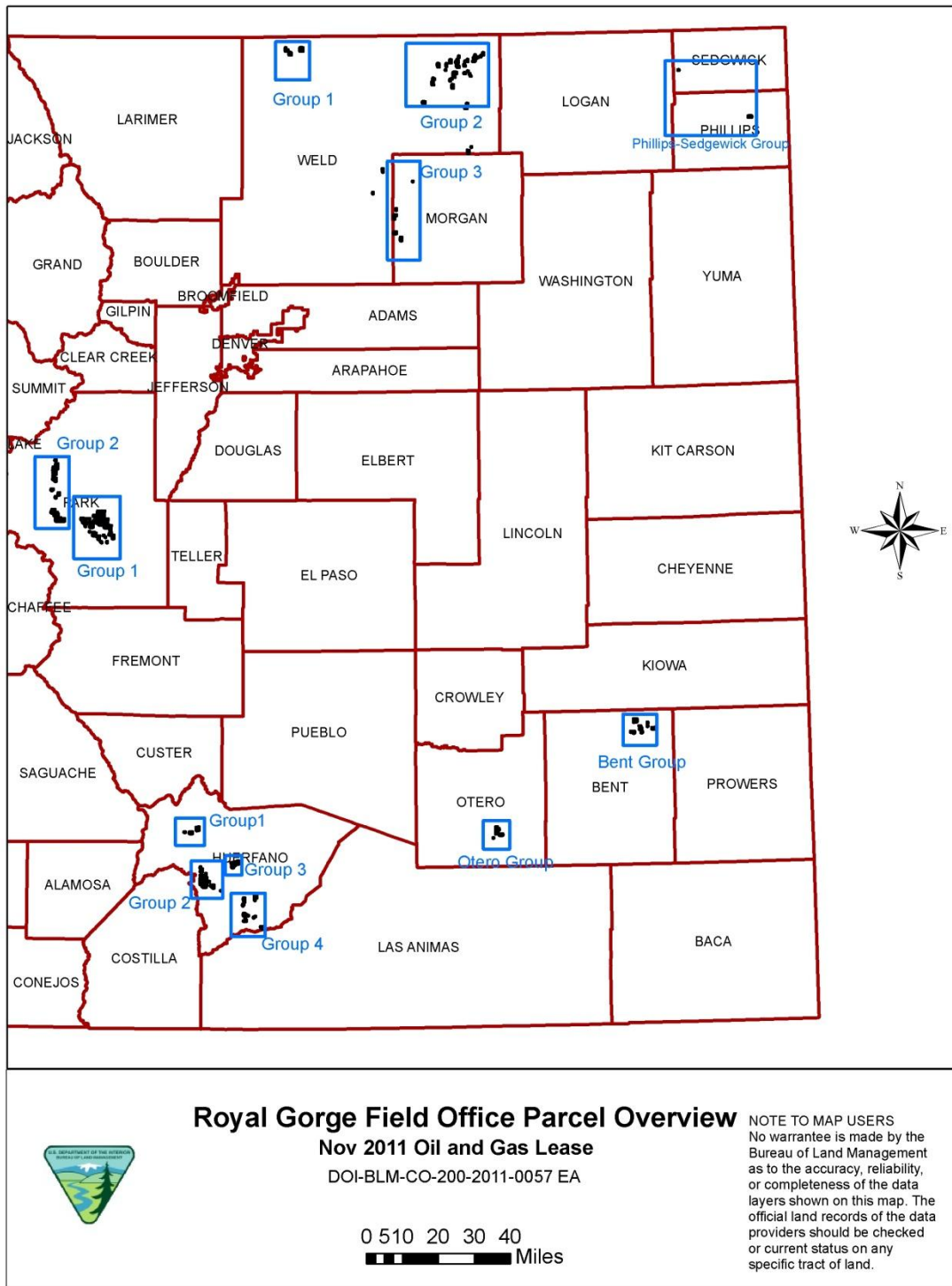
To protect reservoir and railroad rights-of-way improvements and to preserve public safety by prohibiting incompatible uses within established rights-of-way.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

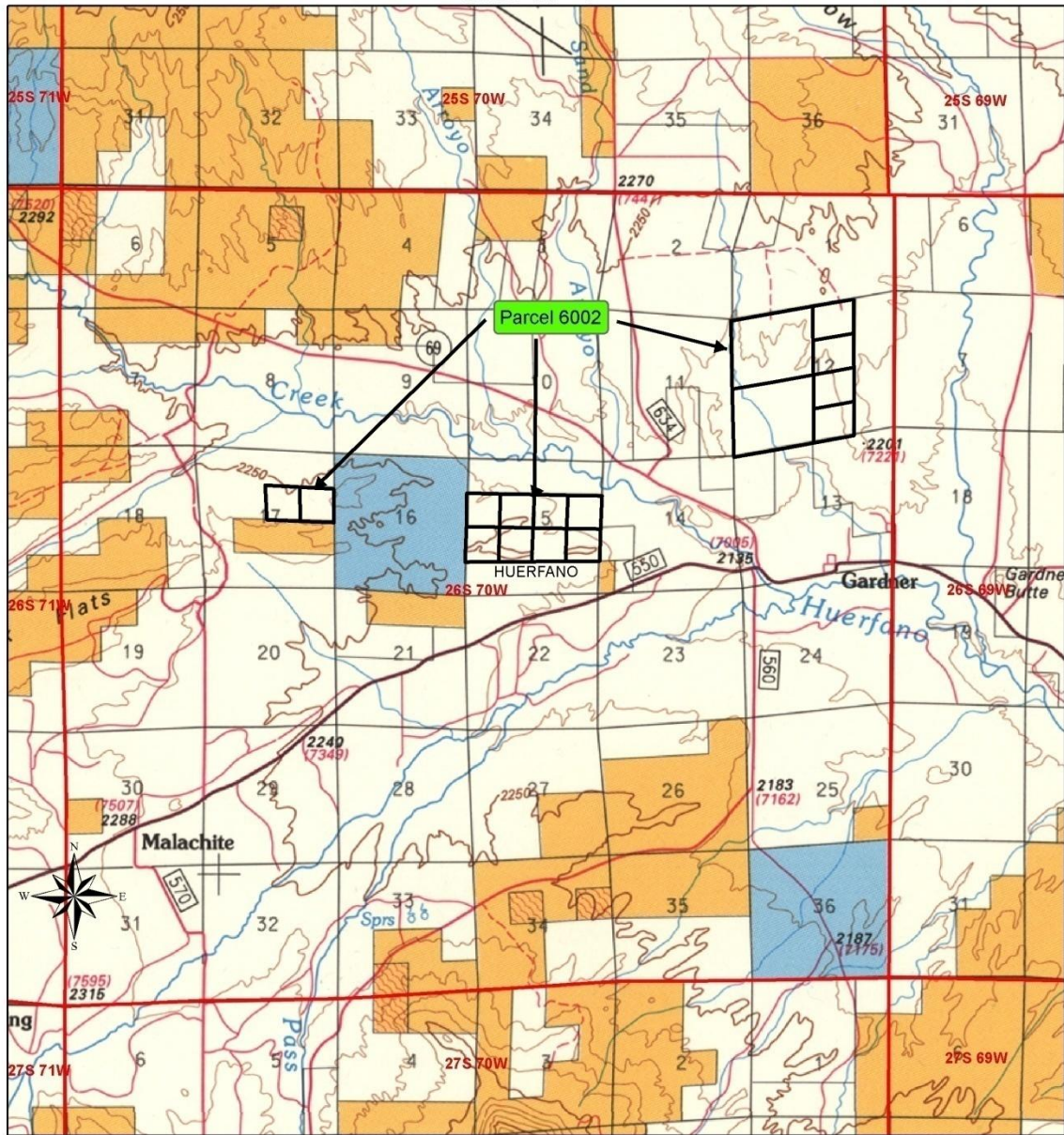
Exception Criteria:

Exceptions may be granted when lessee demonstrates to the satisfaction of the authorized office that these lands can be occupied without damage to improvements or compromising safety.

## Attachment E Parcel Maps



## GROUP 1



### Huerfano County Parcels

Nov 2011 Oil and Gas Lease

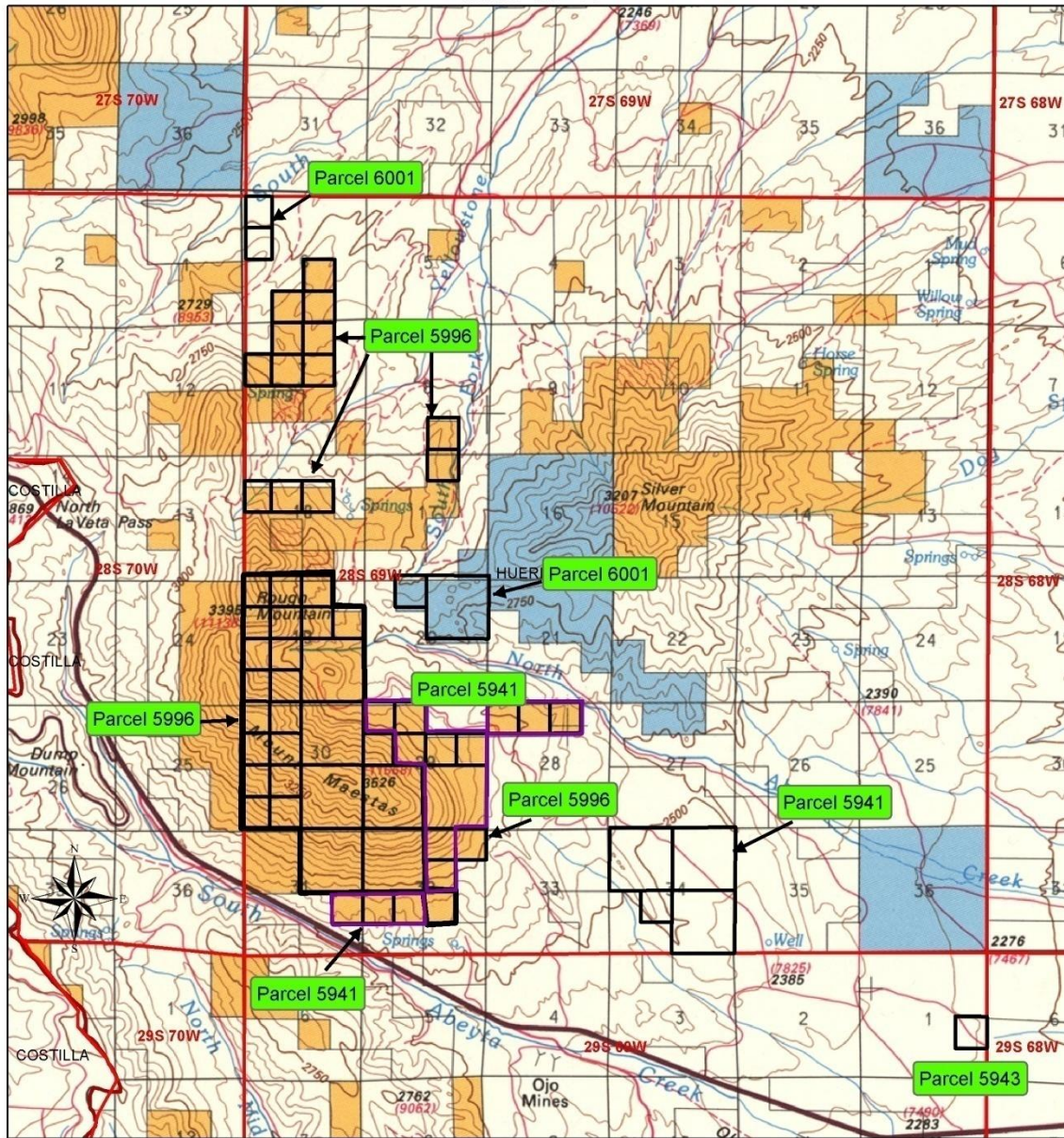
DOI-BLM-CO-200-2011-0057 EA



0 0.4 0.8 1.2 1.6  
Miles

**NOTE TO MAP USERS**  
No warrantee is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of the data layers shown on this map. The official land records of the data providers should be checked or current status on any specific tract of land.

## GROUP 2



### Huerfano County Parcels

Nov 2011 Oil and Gas Lease

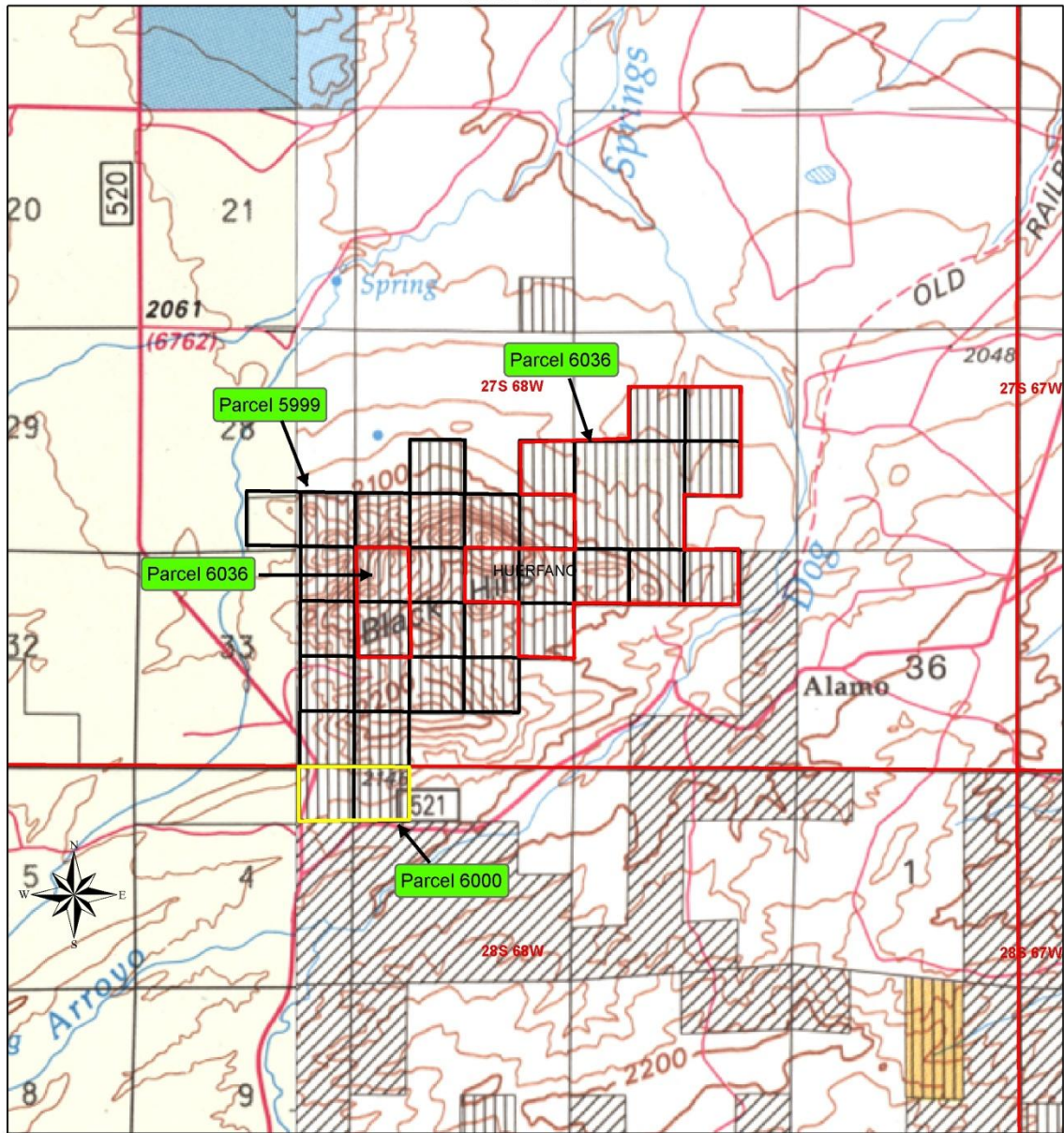
DOI-BLM-CO-200-2011-0057 EA



0 0.4 0.8 1.2 1.6  
Miles

**NOTE TO MAP USERS**  
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### GROUP 3



### Huerfano County Parcels

Nov 2011 Oil and Gas Lease

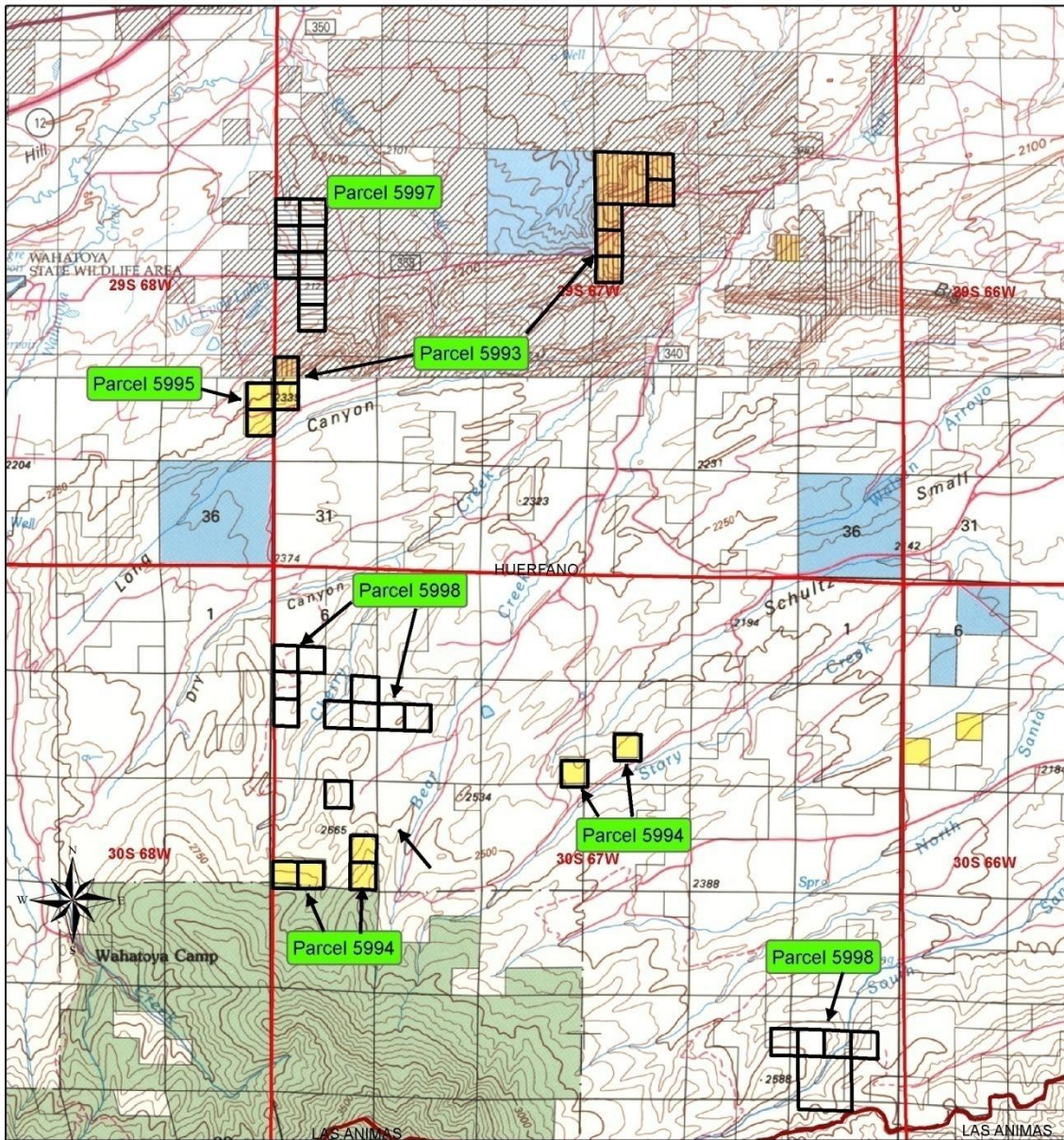
DOI-BLM-CO-200-2011-0057 EA



0 0.2 0.4 0.6 0.8  
Miles

**NOTE TO MAP USERS**  
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## GROUP 4



### Huerfano County Parcels

Nov 2011 Oil and Gas Lease

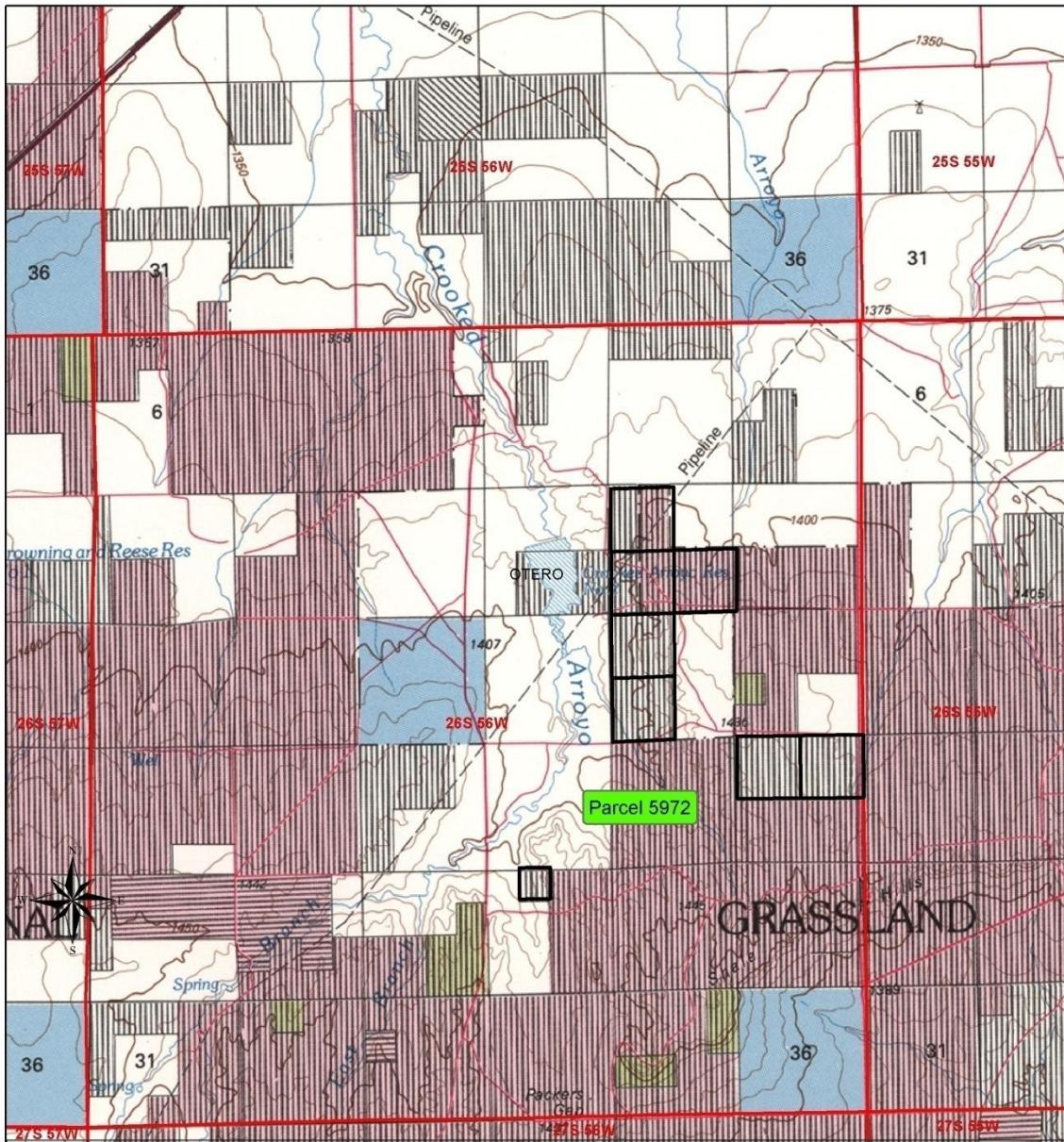
DOI-BLM-CO-200-2011-0057 EA



0 0.4 0.8 1.2 1.6  
Miles

**NOTE TO MAP USERS**  
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# OTERO GROUP



## Otero County Parcels

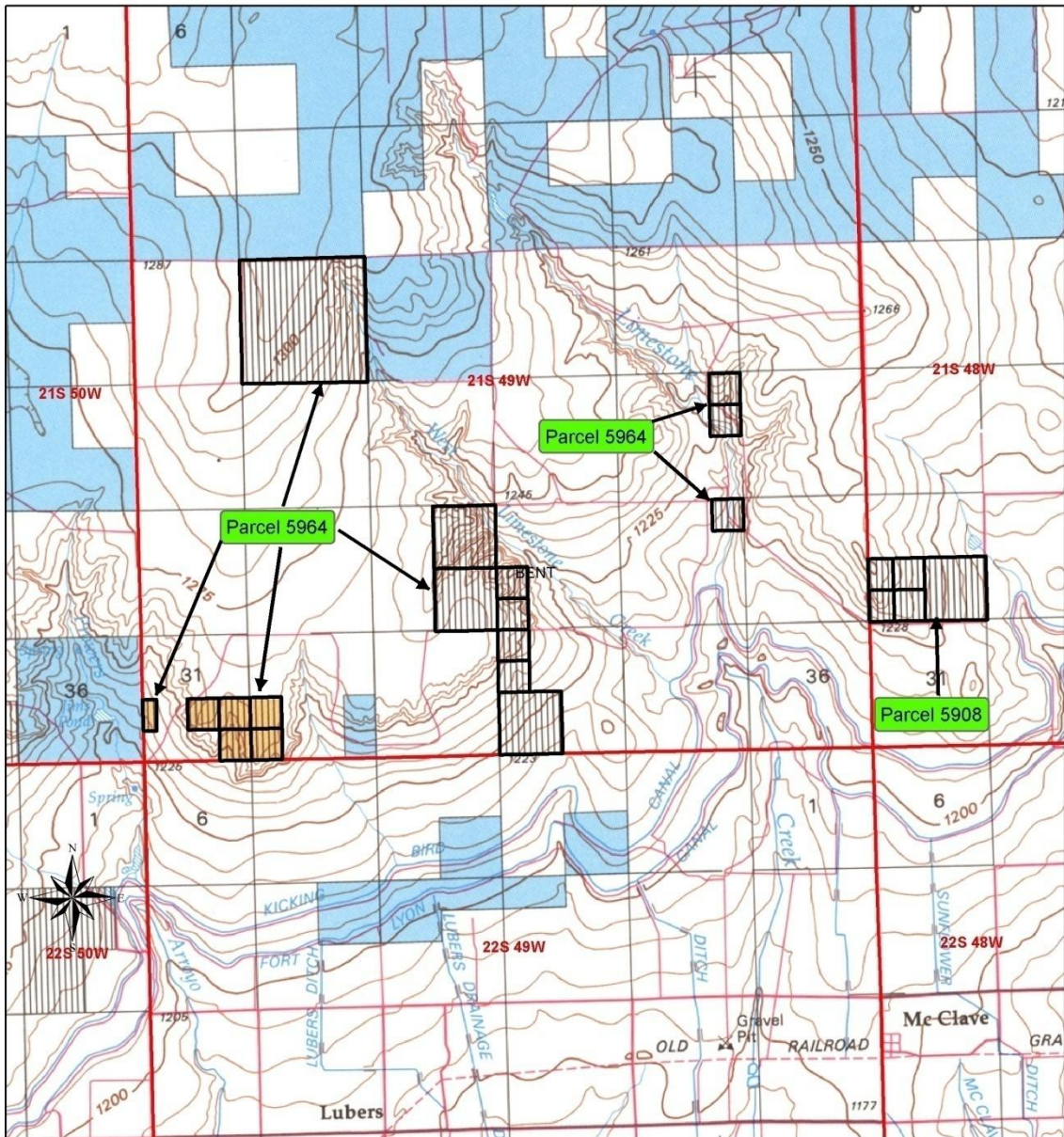
Nov 2011 Oil and Gas Lease

DOI-BLM-CO-200-2011-0057 EA

0 0.3 0.6 0.9 1.2  
Miles

**NOTE TO MAP USERS**  
No warrantee is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of the data layers shown on this map. The official land records of the data providers should be checked or current status on any specific tract of land.

## BENT GROUP



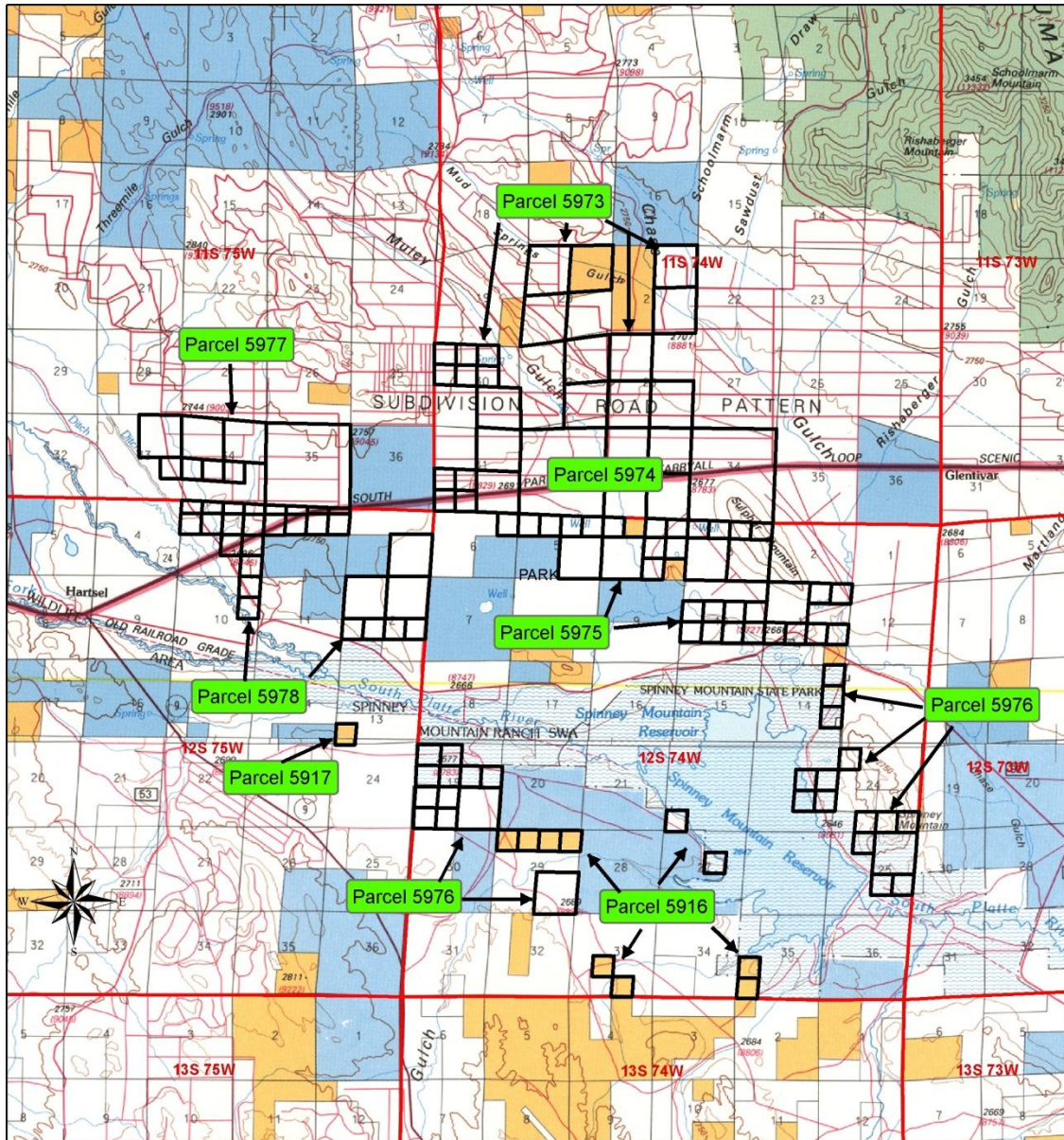
### Bent County Parcels Nov 2011 Oil and Gas Lease

DOI-BLM-CO-200-2011-0057 EA

0 0.4 0.8 1.2 1.6  
Miles

NOTE TO MAP USERS  
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## GROUP 1



### Park County Parcels Nov 2011 Oil and Gas Lease

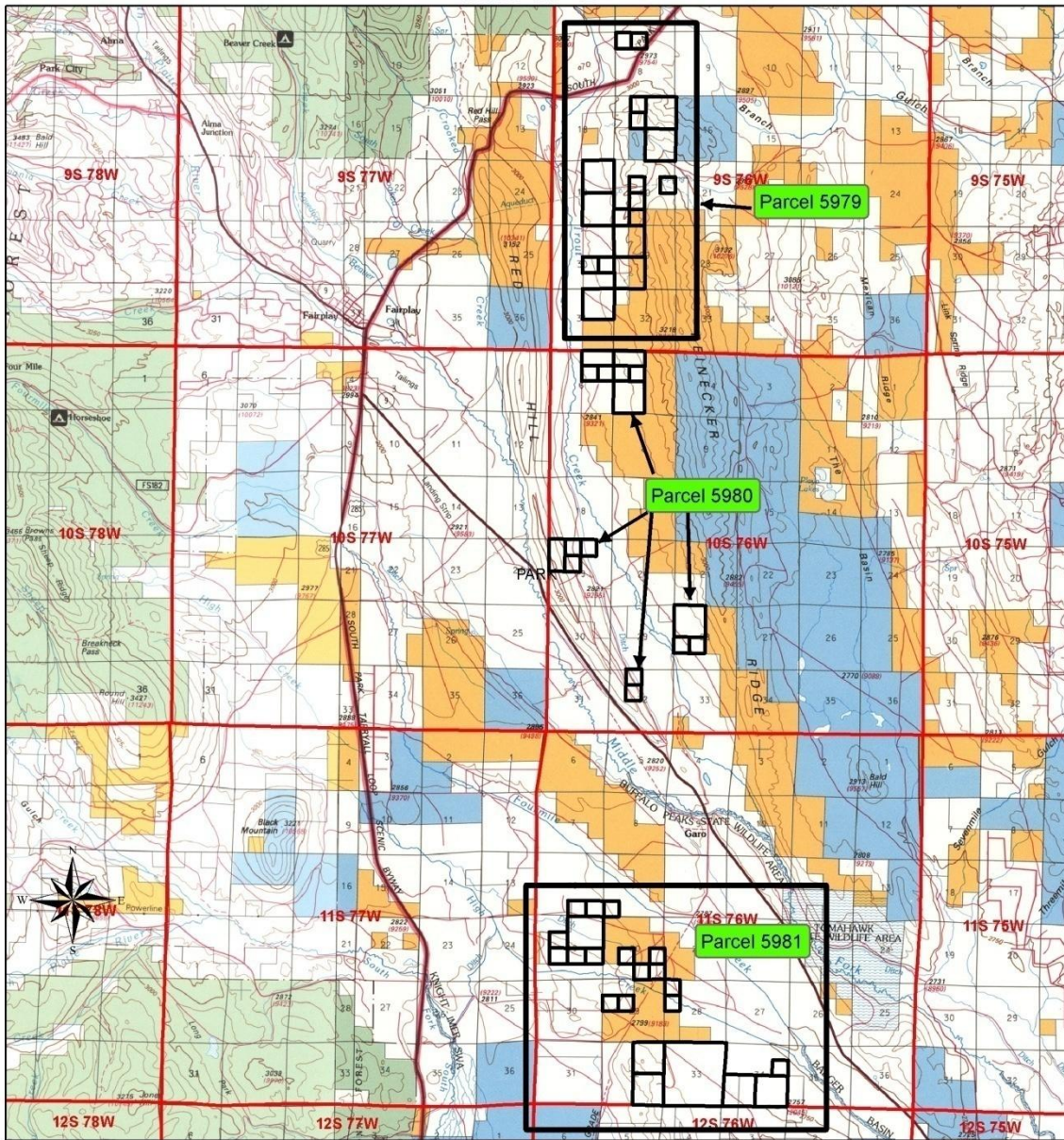
DOI-BLM-CO-200-2011-0057 EA



0 0.5 1 1.5 2  
Miles

**NOTE TO MAP USERS**  
No warrantee is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of the data layers shown on this map. The official land records of the data providers should be checked or current status on any specific tract of land.

## GROUP 2

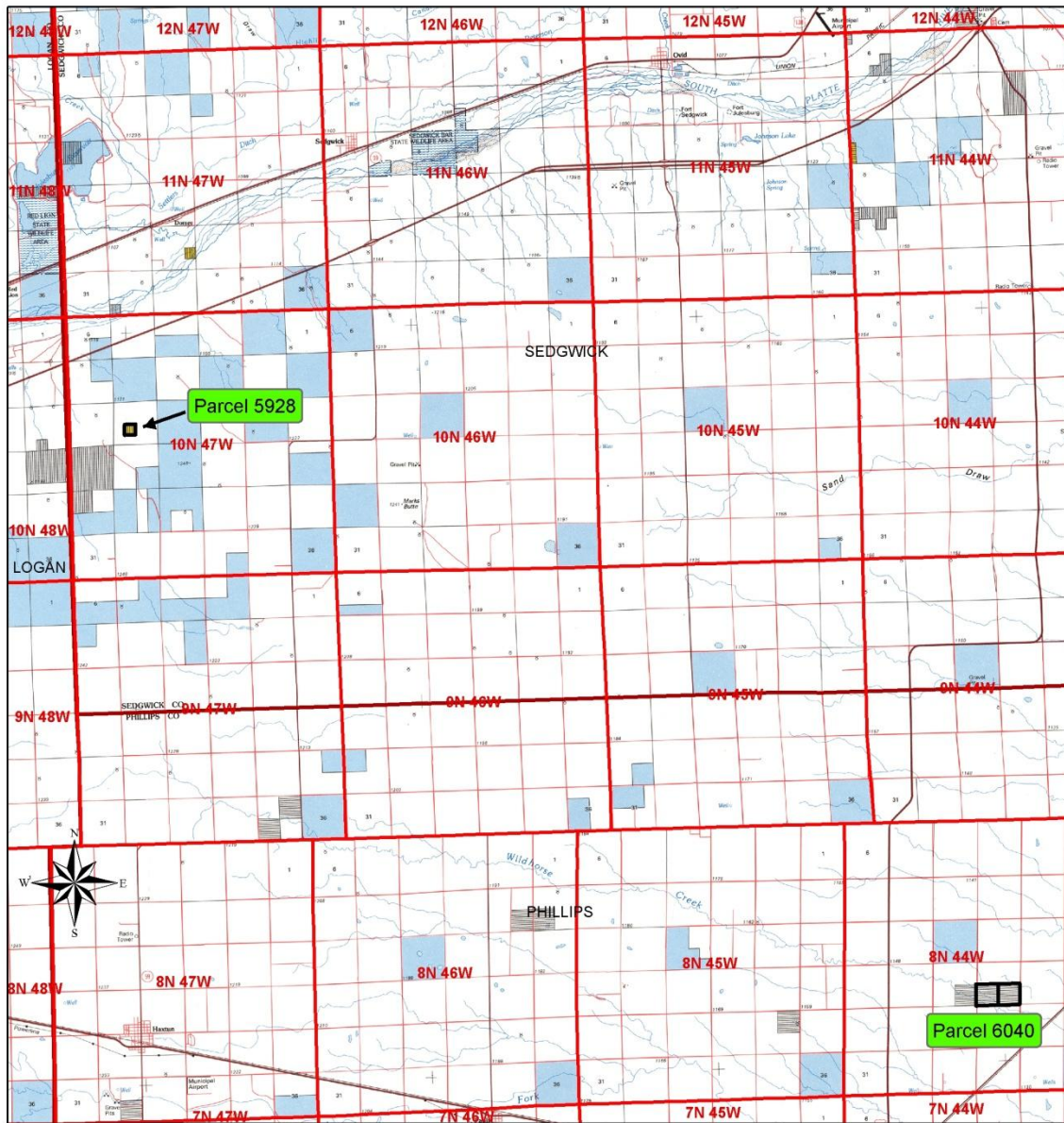


### Park County Parcels Nov 2011 Oil and Gas Lease DOI-BLM-CO-200-2011-0057 EA

0 0.8 1.6 2.4 3.2  
Miles

**NOTE TO MAP USERS**  
No warrantee is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of the data layers shown on this map. The official land records of the data providers should be checked or current status on any specific tract of land.

## PHILLIPS SEDGWICK GROUP



### Phillips and Sedgwick County Parcels

Nov 2011 Oil and Gas Lease

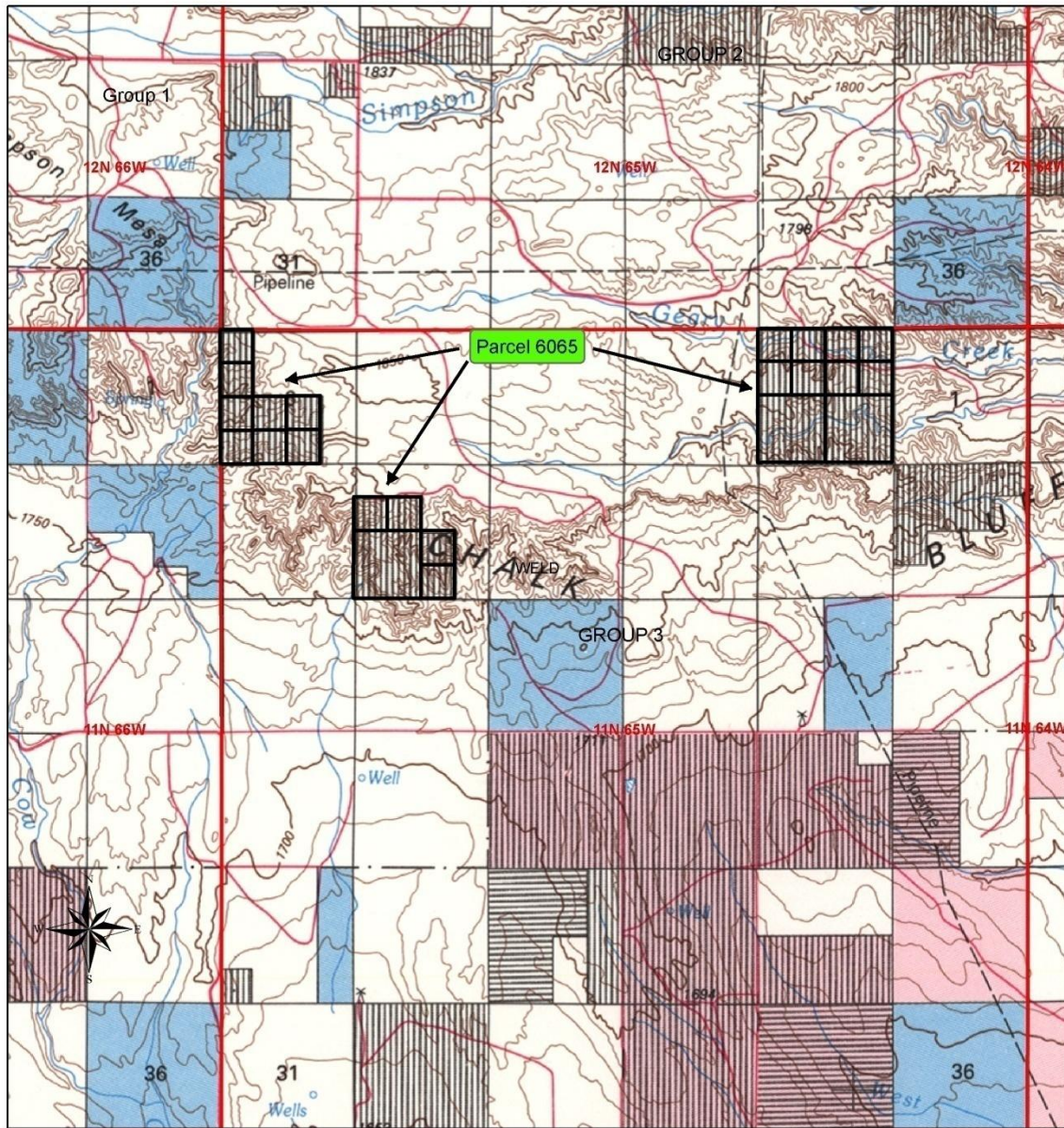
DOI-BLM-CO-200-2011-0057 EA



00.51 2 3 4  
Miles

**NOTE TO MAP USERS**  
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## GROUP 1



### Weld and Morgan County Parcels

Nov 2011 Oil and Gas Lease

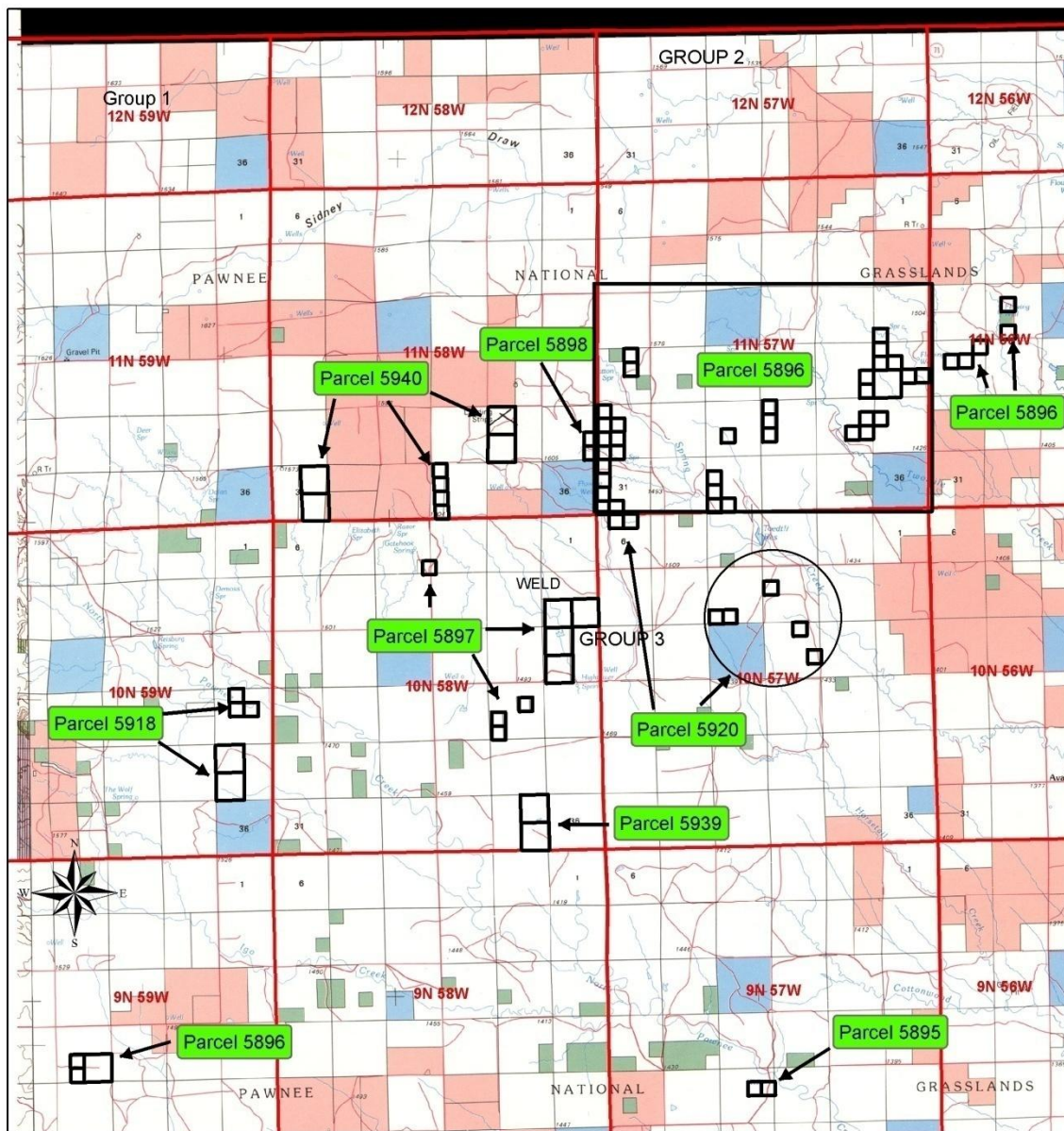
DOI-BLM-CO-200-2011-0057 EA



0 0.35 0.7 1.4 2.1 2.8 Miles

**NOTE TO MAP USERS**  
No warrantee is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of the data layers shown on this map. The official land records of the data providers should be checked or current status on any specific tract of land.

## GROUP 2



### Weld and Morgan County Parcels

Nov 2011 Oil and Gas Lease

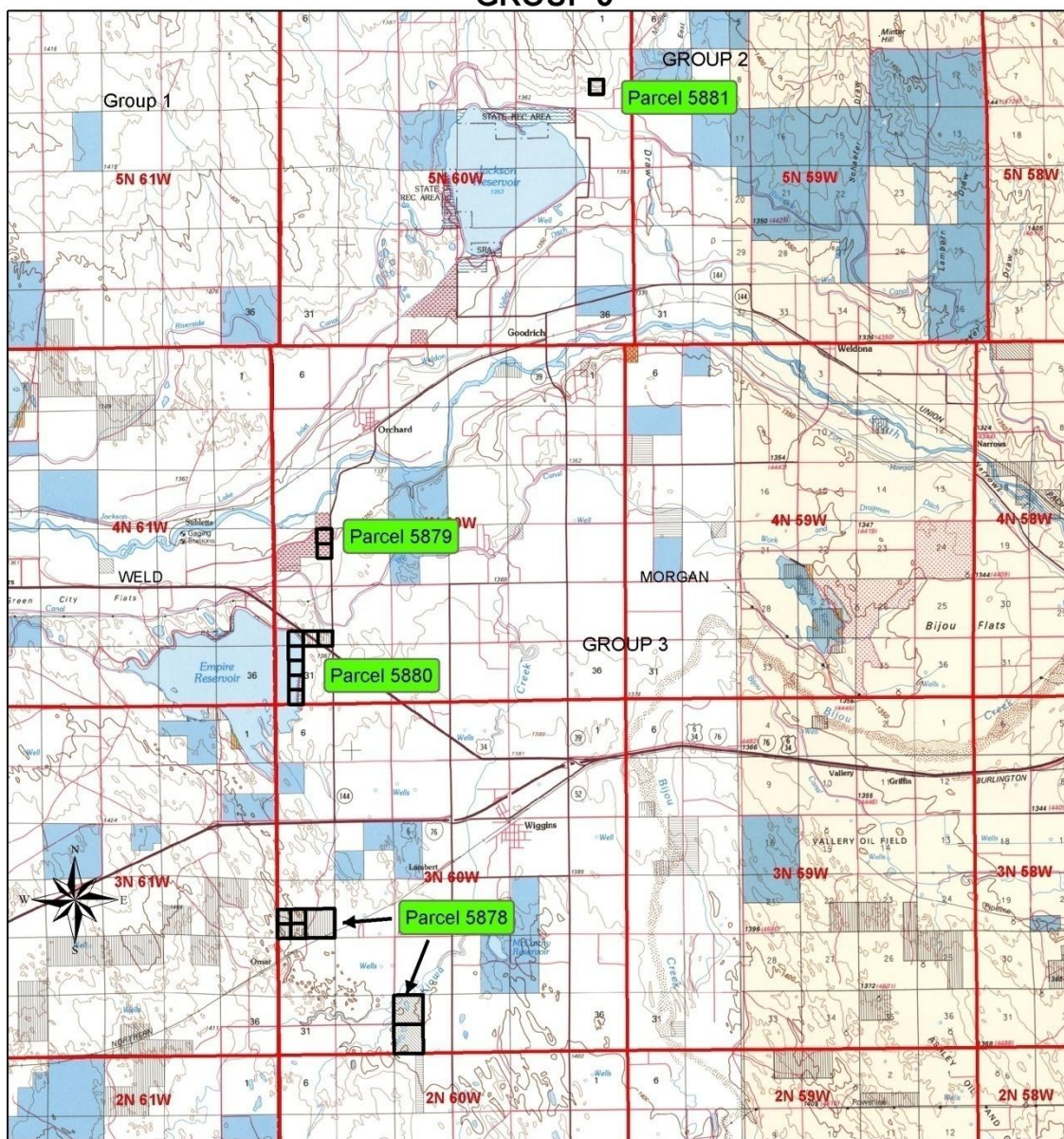
DOI-BLM-CO-200-2011-0057EA



0 0.5 1 2 3 4 Miles

**NOTE TO MAP USERS**  
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## GROUP 3



### Weld and Morgan County Parcels

Nov 2011 Oil and Gas Lease

DOI-BLM-CO-200-2011-0057 EA

0 0.5 1 2 3 4 Miles

NOTE TO MAP USERS  
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